

BADAR A. ALQAMASHOUI (Ph.D)

Curriculum Vitae

Date of Birth	01/01/1973
Nationality	Omani
Marital status	Married, with 4 children
Date of PhD completion	Feb-2014
Place of Study	Georg-August University- Göttingen, Germany
Study Specilaization	Agricultural Sciences/ Animal Sciences/ Animal Genetics Biotechnology
Current Employer	Ministry of Agriculture and Fisheries, PO Box 467 Muscat 100, Sultanate of Oman
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RESEARCH INTERESTS

The molecular biotechnology is essential for population genetics and evolutionary relationships in plant and animal species. Molecular genetic tools such as genetic and sequence database have contributed to our understanding of biodiversity in indigenous species. Over thousands of years, these native genetic resources have been subjected to evolutionary forces such as nature and human selection, mutation and genetic drift which resulted in development of many adaptation traits. Therefore, conservation of these valuable genetic resources is a necessary approach in order to face any future environmental changes. However, how did evolutionary forces contribute to this wide biodiversity in breeds varieties and what is the role of these biotechnologies in our understanding of their phylogenetic relationships?

In my Ph.D project (2009-2014), I used Microsatellites markers to assess genetic diversity, structure and to identify conservation priority ranking for 6 local chicken ecotypes from different agroecological zones of Oman. The phylogenetic relationships of these ecotypes with commercial and wild breeds have been evaluated using neighbor-joining tree. The study included collection of 159 chicken blood samples, DNA isolation, PCR amplification and genotyping of 29 markers using LICORGEL and RFLP-SCAN techniques. Simultaneously, 207 sequences of mitochondrial DNA (D-loop) of chicken from Oman and the Arabian Peninsula have been amplified and sequenced to trace the maternal origin and understand the phylogenetic relationship of these breeds with their counterparts in India, Africa and Southeast Asia. Our study pointed to the high genetic diversity of local chicken and provided interesting clues on the role of Oman and the Arabian Peninsula in the dispersion of chicken from their origin in India towards Northeast and East Africa via the Indian Ocean rim.

Recently, I have cooperated with different research groups to conduct population genetic studies such as assessing Plasmodium falciparum population structure, disclosing genetic relationship of Omani families based on mtDNA; characterizing genetic diversity of local cattle breeds; assessing genetic makeup of Mango varieties in Oman. Currently, I have been attached as a Post-doc in SQU- Collage of Medicine in the project "Theileria in Oman: molecular epidemiology and disease". The project is funded by The Research Council and aims to assess genetic evolutionary between Theileria parasite subspecies in an attempt to provide new approaches for disease control as well as to identify species-specific molecular markers.

I am planning to conduct a research on identification and trace animal species in meat and dairy products in the market using advanced molecular markers. Establishing a non-invasive genetic protocol to conduct population genetic studies on wildlife animals in Oman is also another proposal.

EDUCATION

Degree	Period	University/ Department/Country	Thesis title	Grade
Ph.D. Agricultural Sciences (Animal Genetics and Husbandry)	May 2009- Feb 2014	George-August University-Goettingen, Faculty of Agricultural Sciences- Group of Animal Husbandry in Tropics and Subtropics-Germany	Towards Conservation of Omani Local Chicken: Management, Performance and Genetic Diversity	2.0/1.0
	<p>Research activities and skills</p> <ul style="list-style-type: none"> ▪ Fieldwork: Collecting, handling, preserving of blood and tissue samples from chicken and livestock. ▪ Molecular lab techniques: <ul style="list-style-type: none"> -Extracting DNA by Commercial Kit or Standard Phenol-chloroform extraction. -Running PCR for DNA amplification. -Running Agarose Gel Electrophoresis. -Quantification and quality control of DNA using Nano dropper. -Sequencing DNA reaction by Automated Capillary DNA Sequencer. -Scoring Microsatellite allele-size by LICOR DNA Analyzer and RFLP Scan Package. ▪ Statistical and computing tools: <ul style="list-style-type: none"> - Analyzing Microsatellites genetic data using different softwares (Microsatellite Toolkit, GenAlex, Fstat, Phylip, Genepop, Ppop, Structure, Clump, Distruct, Dispan, Metapop, Cervus, Treemix, Treeview, Split-tree, Leadmix). - Editing and alignment of DNA sequences (Mega, BioEdit, LaserGene). - Analyzing DNA sequence data using different softwares (Arlequin, DnaSP, Network). ▪ Designing questionnaires and conducting agricultural socioeconomic surveys ▪ Analyzing data using different statistical methods (Multiple regression, Logistic regression, PCoA). ▪ Preparation and presentation of findings in written reports, posters and oral presentations. 			
	<p>Courses attended: Applied statistics with R, Advanced methods in Animal breeding and statistical genetics. Ecology and agroecosystems.</p>			
M.Sc. Agricultural Sciences (Animal Husbandry, Physiology and Meat Sciences)	Sep 2002- June 2006	Sultan Qaboos University, Collage of Agriculture and Marine Sciences, Department of Animal and Veterinarian Sciences- Sultanate of Oman	Effects of season, housing type and ascorbic acid supplementation on performance, carcass and meat quality characteristics of broiler chickens in the Sultanate of Oman.	3.3/4.0
	<p>Research activities and skills:</p> <ul style="list-style-type: none"> ▪ Fieldwork: Conducting animal feeding and husbandry studies, collecting biological samples, . ▪ Molecular lab techniques: Evaluation of carcass and meat quality characteristics (pH, Expressed Juice, Cooking Loss, Warner-Bratzler Shear Force, Sarcomere Length, Myofibrillar Fragmentation Index and Colour. ▪ Statistical and computing tools: Analyzing experimental data using SAS. 			
	<p>Courses attended: Fundamentals of immunology, Advanced growth and development, Advanced environmental and reproductive physiology, Advanced animal nutrition, Advanced statistics and experimental design, Research method</p>			
B.Sc. Agricultural Sciences (Animal Sciences)	Sep 1991- June 1995	Sultan Qaboos University, Collage of Agriculture and Marine Sciences, Department of Animal and Veterinarian Sciences Sultanate of Oman		2.3/4.0

EMPLOYMENT HISTORY

Period	Position	Location	Job Description/ Experiences and activities
2014- present	Visitor Post Doc.*	Collage of Medicine and Health Sciences, Sultan Qaboos University-Muscat, Oman	<ul style="list-style-type: none"> Field sampling, molecular laboratory works, Population genetics data analyses
2007-present	Head of Department of Poultry Projects Development	Ministry of Agriculture and Fisheries-Muscat, Oman	<ul style="list-style-type: none"> Designing strategies and evaluating research schemes. Conducting livestock genetic improvement projects by breeding and selection.
1996-2007	Animal Production Researcher		<ul style="list-style-type: none"> Set workshops and presentation for agricultural agents/technicians and breeders.

*Temporary attachment contract till Nov 2015 in the Project: *Theileria* in Oman: molecular epidemiology and disease. Full-Grant from TRC, Project No.: RC/MED/BIOC/13/01.

PUBLICATIONS AND ABSTRACTS

1. Amani M., Bakiet M., Abel-Muhsin A., Salah-Eldin G., Al-Hashami Z., Albarwani H., **AlQamashoui B.**, Al-Hamidhi S., Idris M., Elagib A., Beja-Pereira A. and Babiker H. (2015) Plasmodium falciparum population structure in Sudan post artemisinin-based combination therapy. *Acta Tropica* (Accepted for publication, Ms. Ref. No.: ACTROP-D-14-00474R3).
2. **Al-Qamashoui B.**, AL-Ansari A., Simianer H., Weigend S., Mahgoub O., Costa V., Weigend A., Al Aرامي A. and Beja-Pereira A. (2015). From India to Africa across Arabia: an mtDNA assessment of the origins and dispersal of chicken around the Indian Ocean Rim. *BMC Genetics* (Submitted for publication Jan. 2015, MS ID. 7043029361208927).
3. Al-Hamidhi S., Tageldin M., Weir W., Al-Fahdi A., Johnson E., Bobade P., Idris M., **Alqamashoui B.**, Beja-Pereira A., Kinnaird J., Shiels B., Tait A., Babiker H. (2015). Genetics diversity and population structure of *Theileria annulata* in Oman. Submitted for publication.
4. Alwashahi L., Alshamsi H., Dillon N., Sharma N., **Alqamashoui B.** and Alsaadi A. (2015). Molecular Characterization of Local Mango Germplasm in Oman. ABSTRACT (<https://www.conlog.com.au/ei/viewpdf>).
5. **Al-Qamashoui B.**, Simianer H., Kadim I. and Weigend S. (2014). Assessment of genetic diversity and conservation priority of Omani local chickens using microsatellite markers. *Tropical Animal Health and Production*, 46 (5): 747-752.
6. **Al-Qamashoui B.**, Mahgoub O., Kadim I. and Schlecht E. (2014). Towards Conservation of Omani Local Chicken: Phenotypic Characteristics, Management Practices and Performance Traits. *Asian-Australasian Journal of Animal Sciences*, 27 (6): 767-777.
7. Kadim I., **Al-Qamashoui B.**, Mahgoub O., Al- Marzooqi W. and Johnson E. (2008). Effect of Seasonal Temperatures and ascorbic acid supplementation on performance of broiler chickens maintained in closed and open-sided houses. *International Journal of Poultry Sciences*, 7: 655-660.
8. Kadim I., **Al-Qamashoui B.**, Mahgoub O., Al- Marzooqi W. and Johnson E. (2009). Effect of Seasonal Temperatures and ascorbic acid supplementation on meat quality characteristics of broiler chickens maintained in closed and open-sided houses. *International Journal of Poultry Sciences*, 8: 733-739.

RECENT PARTICIPATIONS IN CONFRENCES AND WORKSHOPS

Date	Title	Participation	Location
07-09 Apr. 2015	Regional camel conference “Genetic improvement of camel performances”	Attendance	Riyadh, Saudi Arabia
21 Dec. 2014	Symposium on Oman Mountains: Environment And Agriculture	Oral presentation	SQU, Muscat-Oman
14-18 Dec. 2014	The Project of Genome Scan of Indigenous Chicken Workshop	Lecturing	King Saud University, Riyadh, Saudi Arabia
24-26 Mar. 2014	National Conference on Agriculture and Fisheries; Research for Development	Poster presentation	SQU, Muscat-Oman
24-25 Nov. 2013	Qatar Foundation Annual Research Forum Conference	Poster presentation	Doha, Qatar
12-13 Nov. 2013	Marine Biotechnology Symposium	Attendance	SQU, Muscat-Oman
19-21 Jan. 2013	International Symposium of Biotechnology & Conservation of Species from Arid Regions	Oral and poster presentation *	SQU, Muscat-Oman
19-21 Sep. 2012	Tropentag Conference; Resilience of agricultural systems against crises	Poster presentation	Gottingen-Germany
05-07 Oct. 2011	Tropentag Conference; Development on the margin	Poster presentation	Bonn-Germany
05-07 Oct. 2011	7 th European Symposiums on Poultry Genetics	Attendance	Edinburgh-Scotland

*I received the Conference Award for the Best Poster in the Animal Biotechnology Division.

REFEREES

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