Gebrehaweria Kidane Reda - University of Debrecen

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RESEARCH INTEREST

I have completed my PhD in the Physiology and Molecular Nutrition lab at the University of Debrecen, where I am currently working as a postdoctoral researcher. My research interests focus on the molecular and physiological mechanisms underlying life-history traits, particularly how nutritional conditions influence growth, reproduction, metabolism, and physiological plasticity. My current research investigates how the effects of nutritional conditions on life-history traits are mediated through the mTOR signalling pathway, with special attention to avians. In addition, my research interests extend to epigenetic mechanisms that may regulate nutritional responses and contribute to life-history plasticity. I have extensive laboratory experience in molecular and physiological techniques, as well as strong skills and motivation for fieldwork and biological sample collection. I also possess strong statistical and data analysis skills using R programming. As a first author, I have published several articles in reputable peer-reviewed journals and have made significant contributions as a co-author to additional published articles.

EDUCATION

PhD, Animal Husbandry (Molecular nutrition)– *University of Debrecen* – current
MSc, Range Ecology and Management – *Haramaya University* – with honor
BSc, Animal production – *Haramaya University* – with honor

TRAININGS

2023 How to Get Published – *Springer Nature*
2023 AIReviewer: Artificial intelligence applied to the massive analysis of scientific information – *University Miguel Hernandez*
2018 Open Data Management in Agriculture and Nutrition - *Global Open Data for Agriculture and Nutrition (GODAN)*
2017 Scientific report writing and analysis using 'R' Software - *Ethiopian Institute of Agriculture Research (EIAR)*
2016 Access to Scientific Information Resources in Agriculture for Low-Income Countries - *Food and Agriculture Organization (FAO)*
2016 Scientific Research Writing - *AuthorAID*
2014 Higher Diploma Licence as a Certified Professional Teacher Educator - *Samara University*

WORK EXPERIENCE

Current University of Debrecen – Postdoctoral fellow. Research work and course delivery
2020-2025 University of Debrecen – PhD student. Research work and course delivery
2017 - 2020 Adigrat University – Lecturer and research assistant
2012 -2017 Samara University – Lecturer and research assistant

ADVISORY AND MENTORING

2021-current Masters and PhD students advisor and mentoring, *University of Debrecen*
2017-2020 Bachelor students advisory, *Adigrat University*
2012-2017 Bachelor students advisory, *Samara University*

TEACHING

Year	Courses	Course code	Institution
2023-2025	Physiology, Regulatory Biology, and Immunology	TTBME0200	University of Debrecen
2026	Animal Husbandry	MTMAL7009A-P	University of Debrecen
2026	Animal Husbandry III	MTBM7014A	University of Debrecen
2026	Animal Husbandry	GT_AGVNE013-17-GY	University of Debrecen
2018-2020	Range and Wildlife Ecology	AnPT2031	Adigrat University
2018-2020	Rangeland Management and Evaluation	AnPT 2033	Adigrat University
2019	Beekeeping	AnPT 3071	Adigrat University
2013-2017	Range Ecology and Management	AnSc 2033	Samara University
2013-2017	Forage and Pasture Production	AnSc 2032	Samara University
2015-2017	Apiculture	AnSc 4121	Samara University
2013-2017	Range Ecology and Management	NaRM2114	Samara University

MEMBERSHIP IN PROFESSIONAL SOCIETIES

Society for Experimental Biology
Society for Study of Evolution
European Ornithological Society
Ethiopian Society of Animal production

LANGUAGE SKILLS

Mother language(s): Tigrigna

English			**Amharic**		
Listening: C1	Reading: C2	Writing: C1	Listening: C2	Reading: C2	Writing:C2
Spoken Production: C1	Spoken Interaction: C1		Spoken Production:C2	Spoken Interaction: C2	

SKILLS

Lab skills	✓ Gene expression/ Quantitative Real-Time Polymerase Chain Reaction (qPCR) ✓ Enzyme-linked immunosorbent assay (ELISA) ✓ Radioimmunoassay (RIA) ✓ Western blot ✓ Skilled in live birds blood and tissue sampling (Brain, liver, spleen, muscle, kidney, heart, intestine) ✓ Skilled and motivated in field work (forest and wetland/marine birds study)
Analytical skill	Statistical modeling, computation, and visualization, using the R programming language

MANAGEMENT AND LEADERSHIP

2015 – 2016	Head Department of Animal science Department, Samara University
2016 – 2017	Head of Quality Assurance Office of the Collage of Agriculture and Environmental Science, Samara University
2019 – 2020	Head Department of Animal Production and Technology, Adigrat University

VOLUNTEERING

2016 – 2017	Community service on beekeeping and forage development in Aba'ala, Erept, and Berahle districts
2015 – 2017	Community service in forage development in Hadelela and Semurobi districts
2014 – 2016	Community service on Beekeeping and forage development in Koneba district
2019 – 2020	Community service on Natural resource conservation district in Wukro Kilite Awlaelo

SCIENTIFIC REVIEW SERVICE

- ✓ Frontiers in Bioscience
- ✓ Journal of Experimental Zoology Part A
- ✓ Veterinary Medicine and Science
- ✓ Journal of Applied Animal Research
- ✓ Scientific Reports

AWARDS

2016 Best Instructor Award of the year 2015/16, Samara University

2024 Best talk award at *31st International MendelNet Conference 2024* talk award competition

2024 Best talk award at *Hungarian Agricultural Sciences Doctoral Symposium 2024* talk award competition

SPOTLIGHT

2024 Early Carrier Researcher (ECR) spotlight: interview as an early-career author, *Journal of Experimental Biology*

PUBLICATIONS

2026 **Reda, G. K.**, Ndunguru, S. F., Csernus, B, Knop, R., Szabó, C., Czeglédi, L. & Lendvai, Á. Z.: Unpredictability and adaptive responses: understanding responses to dietary variability in Japanese quail. *Philosophical Transactions of the Royal Society B*. 381, 20250066

2026 Khalifeh, D. M., Gulyás, G., Knop, R., Almira, F. N., Gashew, M., Abdelbary, E. M., **Reda, G. K.**, Kalló, G., Szabó, C., Csösz, É., & Czeglédi, L.: Early hepatic protein responses to dietary restriction-refeeding in Japanese quail: A proteomic investigation. *Comp. Biochem. Physiol. D Genomics Proteomics*. 60, 101939.

2026 Achenef, G. M., **Reda, G. K.**, Almira, F. N., AbdElbary, E., Gulyás, G., Knop, R., Csernus, B., Szabó, C., Lendvai, Á. Z., & Czeglédi, L.: Dietary arginine modulates egg production and mTOR signalling pathway gene expression in adult Japanese quail (Coturnix japonica). *Veterinary and Animal Science*, 31, 100567.

2026 Törős, G., Gulyás, G., Knop, R., Szabó, C., **Reda, G. K.**, Ndunguru, S. F., László, D., Gaál, Á. B., Prokisch, J., & Czeglédi L.: Investigation of Pleurotus Ostreatus Mushroom-Based Feed Supplementations on Growth Performance and Immune Function in Male Japanese Quails (Coturnix Japonica). *Veterinary Science*, 2026, 13(5), 496.

2026 Achenef, G. M., **Reda, G. K.**, Almira, F. N., AbdElbary, E., Khalifeh, D. M., Ndunguru, S. F., Gulyás, G., Knop, R., Csernus, B., Szabó, C., Lendvai, Á. Z., & Czeglédi, L.: Arginine shapes growth and mTOR pathway gene expression in Japanese quails (Coturnix japonica). *Scientific Reports*, 16, 2711.

2026 Gashew, M., **Reda, G. K.**, Knop, R., Szabó, C., Lendvai, Á. Z., & Czeglédi, L.: Carryover effects of dietary arginine on productive performance and blood biochemistry in Japanese quail (Coturnix japonica). *Veterinary Animal Science*, 39, 100775.

2026 Abdelbary, E., **Reda, G.**, Almira, F., Gashew, M., Khalifeh, D., Gulyás, G., Knop, R., Németh, Z., & Czeglédi, L.: Effects of in ovo injection of basil and peppermint essential oils on hatchability and chick quality in Japanese quail (Coturnix japonica). *Applied Animal Science*. [Accepted]. Manuscript No. aas-2026-02825.

2026 Khalifeh, D., Gulyás, G., Knop, R., **Reda, G. K.**, Kalló, G., Szabó, C., Csösz, É., & Czeglédi, L.: Shotgun proteomic analysis of quail liver under feed deprivation and low-energy diet conditions. *Veterinary and Animal Science*. [Under review]. Manuscript No. VAS-D-26-00372.

2026 Ndunguru, S. F., **Reda, G. K.**, Czeglédi, L., & Lendvai, Á. Z.: Embryonic amino acid supplementation unlocks the growth potential in poultry: a meta-analysis. *Poultry Science*. Manuscript no. PSJ-D-26-01941

2026 Khalifeh, D., Gulyás, G., Knop, R., **Reda, G. K.**, Kalló, G., Szabó, C., Csösz, É., & Czeglédi, L.: Muscle transcriptomic analysis to investigate the effect of creatine monohydrate on stressed broilers. *Journal of Animal Science and Biotechnology*. [Under review]. Manuscript no. a9347a73-99a8-4310-92bc-e8842afaa0d7

2026 Abdelbary, E., Gashew, M., **Reda, G. K.**, Khalifeh, D., Almira, F., Ibrahim, S. A., Gulyás, G., Knop, R., Gaál, A. B., Ducza, L., Németh, Z., Csernus, B., & Czeglédi, L.: Effects of in ovo basil essential oil feeding on growth performance, antioxidant and immune gene expression, and tight junction integrity under corticosterone induced stress in Japanese quail. *Veterinary and Animal Science*. [Under review] Manuscript no. VAS-D-26-00744

2026 **Reda, G. K.**, Ndunguru, S. F., Lugata, J. K., Knop, R., Szabó, C., Lendvai, Á. Z., & Czeglédi, L.: Specific amino acid supplementation partially mitigates the effect of dietary restriction on nutrient sensing pathway. [*Under preparation]*

2026 Almira, F. N., **Reda, G. K.**, Csernus, B., Gyulyás, G., Szabó, C., Lendvai, Á. Z., & Czeglédi, L.: Sex-specific hepatic adaptive response to feed restriction: The role of adiponectin and lipogenic gene expression in Japanese quails. [*Under preparation*]

2025 **Reda, G. K.**, Ndunguru, S. F., Knop, Lugata, J. K., Csernus, B, Gulyás, G., Csaba Szabó, Lendvai, Á. Z., Lendvai, Czeglédi, L.: Reproductive resilience and trade-offs: Egg component allocation under nutritional constraints in Japanese quail. *Avian Research*, 16: (3), 100278.

2025 Ndunguru, S. F., **Reda, G. K.**, Lugata, J. K., Csernus, B., Knop, R., Gulyás, G., Szabó, Lendvai, Á. Z., & C., Czeglédi, L.: Amino acid supplementation supports growth and reproductive development under dietary restriction. *Frontiers in Animal Science*, 6:1622877.

2024 **Reda, G. K.**, Ndunguru, S. F., Csernus, B, Gulyás, G., Knop, R., Szabó, C., Czeglédi, L. & Lendvai, Á. Z.: Dietary restriction and life-history trade-offs: insights into mTOR pathway regulation and reproductive investment in Japanese quail. *Journal of Experimental Biology*, 227(8): jeb247064.

2024 **Reda, G. K.**, Ndunguru, S. F., Csernus, B., Lugata, J. K., Knop, R., Szabó, C., Czeglédi, L. & Lendvai, Á. Z.: Dietary restriction reveals sex-specific expression of the mTOR pathway genes in Japanese quails. *Scientific Report*, 14, 8314.

2024 **Reda, G. K.**, Ndunguru, S. F., Csernus, B., Lugata, J. K., Knop, R., Szabó, C., Czeglédi, L., & Lendvai, Á. Z.: Sex-specific effects of dietary restriction on physiological variables in Japanese quails. *Ecology and Evolution*, 14 (5), e11405.

2024 Ndunguru, S. F., **Reda, G. K.**, Csernus, B., Knop, R., Gulyás, G., Szabó, C., Czeglédi, L., & Lendvai, Á. Z.: Embryonic methionine triggers post-natal developmental programming in Japanese quail. *Journal of Comparative physiology B*, 194(1), 179–189.

2024 Lugata, J. K., Ndunguru, S. F., **Reda, G. K.**, Gulyás, G., Knop, R., Oláh, J., Czeglédi, L., & Szabó, C.: In ovo feeding of methionine affects antioxidant status and growth-related gene expression of TETRA SL and Hungarian indigenous chicks. Scientific report, 14, 4387.

2024 **Reda, G. K.**, Ndunguru, S. F., Csernus, B., Lugata, J. K., Knop, R., Szabó, C., & Czeglédi, L.: Individual cage housing affects feed intake and induces sex-specific effects on body weight in Japanese quails. *Acta Agraria Debreceniesis*, 2024, 137-142.

2024 Lugata, J. K., Ndunguru, S. F., **Reda, G. K.**, Ozsváth, X. E., Angyal, E., Czeglédi, L., Gulyás, G., Knop, R., Oláh, J., Mészár, Z., Varga, R., Csernus, B., & Szabó, C.: Methionine sources and genotype affect embryonic intestinal development, antioxidants, tight junctions, and growth-related gene expression in chickens. *Animal Nutrition*, 16, 218–230.

2024 Ndunguru, S. F., **Reda, G. K.**, Csernus, B., Knop, R., Gulyás, G., Szabó, C., Czeglédi, L., & Lendvai, Á. Z.: Embryonic leucine promotes early postnatal growth via mTOR signalling in Japanese quails. *Animals*, 14, 2596.

2024 **Reda, G. K.**, Ndunguru, S. F., Csernus, B., Lugata, J. K., Knop, R., Szabó, C., & Czeglédi, L.: Effect of different dietary manipulations on haematological properties in Japanese quail. *Acta Agraria Debreceniensis*, *Acta Agraria Debreceniesis*, 2024, 35-41.

2023 Csernus, B., Szabó, C., Knop, R., **Reda, G. K.**, Ndunguru, S. F., Gulyás, G., Ozsváth, X. E., & Czeglédi, L.: Capsanthin supplementation modulates the immune response in broiler chickens under Escherichia coli lipopolysaccharide challenge. *Archive in Animal Nutrition*, 66, 103–111.

2022 Lugata, J. K., Ndunguru, S. F., **Reda, G.K.**, Ozsváth, X. E., Knop, R., Angyal, E., Oláh, J., Szabó C.: Effect of genotype on the hematological parameter of TETRA-SL and Hungarian Partridge coloured chickens at young age. *Acta agraria Debreceniesis*, 2022, 99–104.

2020 **Reda, G. K.**, Kebede, T. G., Kahsay, S. T., & Gebrehiwot, B. H.: Carbon sequestration and vegetation properties across the age of community managed exclosures in Northern Ethiopia. *Journal of Nature Conservation*, 56, 125856.

2019 Kahsay, S. T., **Reda, G. K.**, & Hailu, A. M. (2019) Food security status and its determinants in pastoral and agropastoral districts of Afar regional state, Ethiopia. *African Journal of Technology, Innovation and Development*, 12, 333–341.

2018 **Reda, G. K.,** Girmay, S., & Gebremichael, B. (2018). Beekeeping practice and honey production potential in Afar Regional State, Ethiopia. *Acta Universitatis Sapientiae, Agriculture and Environment,* 10, 66–82.

CONFERENCE PRESENTATIONS AND PUBLISHED ABSTRACTS

2024 **Reda, G. K.**, Ndunguru, S. F., Csernus, B., Szabó, C., Czegledi, L., Lendvai, Á. Z.: Nutrient-sensing genes expression mediate resource allocation in Japanese quails. *Society for Experimental Biology* annual meeting, July 2 - 5, 2024, Prague, Czech Republic. Abstract, p. 40.

2024 **Reda, G. K.**, Ndunguru, S. F., Lendvai, Á. Z., Czegledi, L.: Effect of amino acid supplementation on top of restricted feeding in Japanese quails. *31st International MendelNet Conference 2024*, November 06, 2024. Brno, Czech Republic.

2024 **Reda, G. K.**, Ndunguru, S. F., Csernus, B., Czegledi, L., Lendvai, Á. Z.: Expression of nutrient sensing genes mediate the effect of dietary unpredictability in Japanese quails. *Hungarian Agricultural Sciences Doctoral Symposium 2024*, February 16, 2024, University of Veterinary Medicine. Budapest. Abstract, p. 27.

2024 **Reda, G. K.**, Lendvai, Á. Z., Csernus, B., Szabó, C., Czegledi, L., Ndunguru, S. F.: Nutrient-sensing genes expression mediate resource allocation in Japanese quails. *Society for Integrative and Comparative Biology*, January 2 - 6, 2024. Abstract, p. 253-256.

2024 Almira, F. N.**, Reda, G. K**., Csernus, B. , Ndunguru, F. S., Knop, R., Szabó, C., Lendvai, Á. Z., Czegledi, L.: Sex-specific effects of feed restriction on adiponectin and its receptors in Japanese quail. *32nd International Symposium Animal Science Day*, October 2-4, 2024, Oberaichwald, Austria. Abstract, p. 26.

2024 Ndunguru, S. F., **Reda, G. K.**, Csernus, B., Lendvai, Á. Z., Czegledi, L.: In ovo amino acids insights from domesticated and laboratory species. *31st International MendelNet Conference 2024*, November 06, 2024. Brno, Czech Republic. Abstract, p. 29.

2024 Achenef, G.M., Lendvai, Á.Z., Czegledi, L., Knop, R., Szabó, C., **Reda, G.K**., Ndunguru, S. F., Almira, F.N.: Effect of Arginine on Japanese quails, Preliminary findings. Presented at the *9th Scientific Day of Animal Breeding*, November 15, 2024, Gödöllő, Hungary. Abstract, p.54.

2024 Ndunguru, F. S., **Reda, G. K**., Csernus, B. , Szabó, C. , Lendvai, Á. , Czeglédi, L. : The prenatal window: Influence of leucine on growth and development of Japanese quail . Presented at the *II Hungarian Agricultural Sciences Doctoral Symposium 2024*, February 16, 2024, University of Veterinary Medicine, Budapest. Abstract, p. 25.

2023 **Reda, G. K.**, Lendvai Á. Z.: Feed intake regulates transcriptional regulation of mTOR pathway genes in Japanese quails. Presented at the *39 Ovar Science Day conference*, November 16, 2023, Mosonmagyaróvár, Hungary. Abstract, p. 121.

2023 **Reda, G. K.**, Ndunguru, S. F., Czegledi, L., Lendvai, Á. Z.: Dietary unpredictability induced sex-specific effect on mTOR pathway genes in Japanese quails. *University of Debrecen PhD conference*, December 1, 2023, Debrecen, Hungary.

2023 Ndunguru, S. F., **Reda, G. K.**, Czegledi, L., Lendvai, Á. Z.: Amino acid proportions and crude protein impact on ovary and follicular development in Japanese quails. *University of Debrecen PhD conference*, December 1, 2023, Debrecen, Hungary.

2023 **Reda, G. K.**, Ndunguru, S. F., Csernus, B., Czegledi, L., Lendvai, Á. Z.: Nutrient sensing pathway genes respond to daily unpredictable feed availability in Japanese quails. Presented at the *MendelNet Conference*. November 08, 2023, Mendel University, Brno, Czech Republic.

2022 **Reda, G. K.**, Ndunguru, S. F., Czegledi, L., Lendvai, Á. Z.: Effect of feed restriction on the expression of genes mediating nutrient-sensing signalling pathway. *University of Debrecen PhD conference*, November 25, 2022, Debrecen, Hungary.

2022 Ndunguru, S. F., **Reda, G. K.**, Czegledi, L., Lendvai, Á. Z.: The evolution of the nutritional balance of amino acids in animals. *University of Debrecen PhD conference*, November 25, 2022, Debrecen, Hungary.

2022 **Reda, G. K.**, Ndunguru S.F., Czegledi, L., Lendvai, Á. Z.: Linking Feed restriction and fitness components through the IGF-1/mTOR signaling pathway. *III Fledgling Meeting of European Ornithologists Union,* August 11- 13, 2022, Debrecen, Hungary.

2021 **Reda, G. K.**, Ndunguru, S. F., Czegledi, L., Lendvai, Á. Z.: Effect of dietary restriction on the on components of the nutrient sensing pathway in Japanese quails. *University of Debrecen PhD conference*, December 1, 2021, Debrecen, Hungary.

2021 Ndunguru, S. F., **Reda, G. K.**, Czegledi, L., Lendvai, Á. Z.: The effects of quantitative feed restriction on some growth and reproductive performance of Japanese quail. *University of Debrecen PhD conference*, December 1, 2021, Debrecen, Hungary.

INVITED TALK

2024 **Reda, G. K.:** Nutrition, genes, and resource allocation: Insights from Japanese quails. University of Debrecen, Evolutionary Zoology and Human Biology. Invited Seminar

REFERENCES

Name: Ádam Z. Lendvai (Assoc. Prof)
- Department of Evolutionary Zoology and Human Biology
- University of Debrecen
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Name: Levente Czeglédi (Prof)
- Department of Animal Science
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Name: Szabó Csaba (Assoc. Prof)
- Department of Animal Nutrition and Physiology
- University of Debrecen
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