

ASHRAF MASHALY

45 Gleeson Way, Ottawa K2J 4Y7, Ontario, Canada, +1 (514) 772-9079, amash.ooc@gmail.com

Summary

Dynamic Educator well-versed in research and teaching combined with an in-depth insight into student needs evaluation. Bringing 25 years of experience in academic role to complement a committed team of faculty members. Expert quality control coordinator with 10 years' experience and exceptional leadership skills. Strategic planning skills to develop effective QC procedures and efficient solutions to improve operational efficiency.

Skills

- Learning management interfaces
- Academic advisement
- Curriculum creation
- Editorial board member
- Quality management care team leader
- Student performance evaluation
- Solution-focused counselling
- Innovative teaching methods
- Research and analysis
- Academic publication

Experience

Director of studies and research | June 2020 - Dec. 2021

Canadian Institute for strategic studies and development (CISSD), Montreal

Professor | May 2008 - July 2018

College of Sciences, King Saud University - Riyadh, Saudi Arabia

Assistant Professor | March 2005 - May 2011

Faculty of Science, Minia University – Menia, Egypt

Experience in Quality control:

Quality Assurance Coordinator | Jan. 2009 - July 2018

- * Zoology department, College of Sciences, King Saud University - Riyadh, Saudi Arabia
 - Led the work to get the international accreditation from ASIIN, Germany, 2011, 2017.
 - Led the work to get the national accreditation from the NCAAA, Saudi Arabia, 2016.
 - Prepare the guide of practical courses.
 - Prepare the department handbook.
- * Post graduate programs, College of Sciences, King Saud University - Riyadh, Saudi Arabia
 - Managed the quality work of 19 postgraduate programs.
- * King Saud University - Riyadh, Saudi Arabia
 - Contributed in the work to get the renewal of the institutional accreditation of the university from the National Authority of Education Evaluation, NCAAA 2017.

Board of assessor | Jan. 2017 - July 2018

King Saud University - Riyadh, Saudi Arabia

Education

Project Management certificate | 2022

Algonquin college, Ottawa, Canada

Institutional innovation diploma | 2020

Ajman University, UAE.

PhD. | 2004

Institute of Zoology and Anthropology, University of Göttingen, Göttingen, Germany.

Master of Science | 1997

Zoology department, Faculty of Science, Minia University - Menia, Egypt

Bachelor of Science | 1991

Entomology department, Faculty of Science, Benha University - Benha, Egypt

Training

- **Lean Six Sigma Foundations | 2022**
Linked in learning
- **WHMIS 2015 (GHS) | 2022**
YOW Canada Inc.
- **OHSA | 2022**
YOW Canada Inc.
- **Introduction to Gender-based Analysis+ | 2021**
Canada
- **Networking for Success | 2020**
FPSC, Canada
- **Assessment of learning outcomes using Rubrics | 2018**
The national center for academic accreditation & evaluation. Riyadh.
- **Developing teaching portfolio | 2018**
Deanship of Skills development, KSU, Riyadh.
- **Board of assessors for KSU-QMS (level 1-3) | 2018**
Deanship of Skills development, KSU, Riyadh.
- **Self-study report institution (SSRI) | 2016**
University agency of planning and development, KSU.
- **Assessment of learning outcomes | 2015**
Deanship of Skills development, KSU, Riyadh.
- **Internal Auditor for ISO-9001:2008 | 2012**
Research chairs program. KSU, Riyadh.
- **Program and course specification | 2011**
Deanship of Skills development, KSU, Riyadh.

Publications

A. Peer-Reviewed Articles:

1. Afnan S. Al-Qurashi, **Ashraf M. Mashaly**, Reem Alagmi, , Mohamed S. Al-Khalifa, Lamjed Mansour, Suliman Y. Al-Omar, Mostafa R. Sharaf, Abdulrahman S. Aldawood, , Hathal M. Al-Dhafer, Tony Hunter, Masha'el Y. Almutawa, Ashraf M. Ahmed. A preliminary investigation of rabbit carcass decomposition and attracted ants (Hymenoptera: Formicidae) on the seaward coastal beach of Al-Jubail City, Saudi Arabia. *Journal of Medical Entomology*, XX(XX), 2023, 1–13.
2. **Mashaly, Ashraf**, Abdelwahab, Ibrahim. "Forensic entomology research in Egypt: a review article."

- Egyptian Journal of Forensic Sciences* 12.1 (2022): 1-15.
3. Mohammed Al-Khalifa, **Ashraf Mashaly**, Abdullah Al-Qahtni (2021). Impacts of antemortem ingestion of alcoholic beverages on insectsuccessional patterns. *Saudi Journal of Biological Sciences*, 28 (2021) 685–692.
 4. **Ashraf Mashaly**, Mohammed Al-Khalifa, Abdullah Al-Qahtni (2020). *Chrysomya albiceps* Wiedemann (Diptera: Calliphoridae) colonising poisoned rabbit carcasses. *Entomological research*. 50(11): 552-560.
 5. Abdullah Al-Qahtni, **Ashraf Mashaly**, Rania Haddadi, Mohammed Al-Khalifa (2020). Seasonal impact of heroin on rabbit carcass decomposition and insect succession. *Journal of Medical Entomology*. DOI: 10.1093/jme/tjaa237.
 6. **Mashaly A.**, Al-Khalifa M., Al-Qahtni A., Alshehri A. (2020). Analysis of insects colonised on human corpses during autopsy in Riyadh, Saudi Arabia. *Entomological research*, 50(7): 351-360.
 7. Fouzi Boulkenafet, Yasmine Dob, Roumaissa Karroui, Mohammed Al-Khalifa, Yacine Boumrah, Moussa Toumi, **Ashraf Mashaly** (2020). Detection of benzodiazepines in decomposing rabbit tissues and certain necrophagic dipteran species of forensic importance. *Saudi Journal of Biological Sciences*, 27: 1691-1698.
 8. **Ashraf Mashaly**, Ahmed Mahmoud, Hossam Ebaid (2020). Relative insect frequency and species richness on sun-exposed and shaded rabbit carrions. *Journal of Medical Entomology*, 57(4): 1006-1011.
 9. Mohammed S. Al-Khalifa, **Ashraf M. Mashaly**, Abdulmani H. Al-Qahtni (2020). Insect species colonized indoor and outdoor human corpses in Riyadh, Saudi Arabia. *Journal of King Saud University- Science*, 32: 1812-1817.
 10. **Ashraf Mashaly**, Walid Kaakeh, Mohamed Al-Khalifa, Reem Al-Ajmi, Essam Shaalan, Liyla Al-Shareef, Fouzi Boulkenafet, Fahd Al-Mekhlafi (2020). Standard Practices and Guidelines in Forensic Entomology. *Arab Journal of Forensic Sciences & Forensic Medicine*, doi.org/10.26735/16586794.2019.023.
 11. **A. Mashaly**, A. Mahmoud, H. Ebaid, R. Sammour (2020). Effect of height to ground level on the insect attraction to exposed rabbit carcasses. *Journal of Environmental Biology*. 41(1): 73-78.
 12. Abdulmani H. Al-Qahtni, Mohammed S. Al-Khalifa, **Ashraf M. Mashaly** (2020). Two human cases associated with forensic insects in Riyadh, Saudi Arabia. *Saudi Journal of Biological Sciences*. 27: 881-886.
 13. Ibrahim M. Alhazza, Hossam Ebaid, Bahaa Abdel-Salam, Jameel H. Al-Tamimi, Iftekhar Hassan, Ahmed M. Rady, **Ashraf M. A. Mashaly** (2019). Thymoquinone ameliorates *Pachycondyla sennaarensis* venom-induced acute toxic shock in male rats. *BMC Pharmacology and Toxicology*. 20:84, <https://doi.org/10.1186/s40360-019-0375-x>.
 14. Hossam Ebaid, Bahaa Abdel-Salam, Ibrahim Alhazza, Jameel Al-Tamimi, Iftekhar Hassan, Ahmed Rady, **Ashraf Mashaly**, Ahmed Mahmoud, Reda Sammour (2019). Samsun ant venom modulates the immune response and redox status at the acute toxic dose in vivo. *J Venom Anim Toxins incl Trop Dis*, 25:e20190020.
 15. Abdulmani H. Al-Qahtni, **Ashraf M. Mashaly**, Reem A. Alajmi, Adel A. Alshehri, Zeinab M. Al-Musawi, Mohammed S. Al-Khalifa (2019). Forensic insects attracted to human cadavers in a vehicular environment in Riyadh, Saudi Arabia. *Saudi Journal of Biological Sciences*, 26: 1499-1502.
 16. **Mashaly A.M.**, Al-Ajmi R.A., Rady A., Al-Musawi Z., Farrukh A. (2019). Species richness of scavenger insects on different carcass types. *Tropical biomedicine*, 36(3): 630-639.
 17. **Mashaly A.**, Mahmoud A., Ebaid H. (2019). Influence of Clothing on Decomposition and Presence of Insects on Rabbit Carcasses. *Journal of Medical Entomology*, 56(4): 921-926.
 18. Reem Alajmi, **Ashraf Mashaly**, Noura Al-Otaibi, Ahmed Mahmoud, Tahany Ayaad. (2019). Efficiency of three mitochondrial genes in molecular identification and phylogenetic analysis of termites. *Research Journal of Biotechnology*, 14 (10): 30-40.

19. N. Alotaibi, **A. Mashaly**, R. AlAjmi, A. Ahmed and T. Ayad (2019). Genetic diversity of termites from Ta'if City Saudi Arabia. *Journal of environmental biology*, 40: 29-35.
20. **Ashraf Mashaly**, Reem Al-Ajmi, Halah Al-Johani (2018). Molecular Identification of the Carrion Beetles (Coleoptera) in Selected Regions of Saudi Arabia. *Journal of Medical Entomology*, 55(6): 1423–1430.
21. **Ashraf Mohamed Ali Mashaly**, Mostafa Sharaf, Fahd A. Al-Mekhlafi, Medghom Al-Subaie, Abdulrahman S. Aldawood, Gail Anderson (2018). Ants (Hymenoptera: Formicidae) attracted to rabbit carcasses at three different habitats. *Sociobiology*, 65(3): 433-440.
22. N.A. Otaibi, **A. Mashaly**, R. Alajmi, A. Ahmed and T. Ayaad (2018). Genetic diversity of termites from Ta'if City Saudi Arabia. *Journal of Environmental Biology*, (accepted).
23. **Ashraf Mashaly**, Reem Alajmi, Abd El-Zaher Mustafa, Ahmed Rady and Hussein Alkhedir (2017). Species abundance and identification of forensically important flies of Saudi Arabia by DNA barcoding. *Journal of Medical Entomology*, 54(4): 837-843.
24. **Ashraf Mohamed Ali Mashaly** (2017). Carrion beetles succession in three different habitats in Riyadh, Saudi Arabia. *Saudi Journal of Biological Sciences*, 24, 430–435.
25. Fahd A. Al-Mekhlafi, Nael Abutaha, **Ashraf M.A. Mashaly**, Fahd A. Nasr, Khalid E Ibrahim, Muhammad A. Wadaan (2017). Biological Activity of *Xanthium strumarium* Seed Extracts on Different Cancer Cell Lines and the Larvae of *Aedes caspius* and *Culex pipiens* (Diptera: Culicidae). *Saudi Journal of Biological Sciences*, 24: 817-821.
26. Ahmed H. Mahmoud, **Ashraf M. Mashaly**, Ahmed M. Rady, Khalid M. Al-Anazi, Amgad A. Saleh (2017). Allelic variation of Melanocortin-1 Receptor (MC1R) locus in Saudi indigenous sheep exhibiting different color coats. *Asian-Australasian Journal of Animal Sciences*, 30(2):154-159.
27. Abutaha Nael, AL-Zharani Mohammed, AL-Mekhlafi Fahd A., AL-Tamimi Jameel, **Mashaly Ashraf M.A.** and Wadaan Muhammad A. (2017). Acute and Subacute Toxicity of Ethyl Acetate Fraction of *Cochliobolus spicifer* (Nelson) isolated from Phoenix dactylifera (Linnaeus) on Balb/c Mice. *Research Journal of Biotechnology*, 12(4): 9-13.
28. R. A. Alajmi, H. Al-Jefry, A. Farrukh, H. Aljohani, **A. M. A. Mashaly** (2016). First Report of Necrophagous Insects on Human Corpses in Riyadh, Saudi Arabia. *Journal of Medical Entomology*, 53(6): 1276-1282.
29. Fahd Mohammed A. Abd-Algalil, Sureshchandra Popat Zambare, **Ashraf Mohamed Ali Mashaly** (2016). Impact of *Megaselia scalaris* on the life cycle stages of the sarcophagid fly, *Parasarcophaga ruficornis*. *Entomologia Generalis*, 36(1): 25-32.
30. **Ashraf Mohamed Ali Mashaly** (2016). Entomofaunal succession patterns on burnt and unburnt rabbit carrion. *Journal of Medical Entomology*. 53(2): 296–303.
31. Fahd Mohammed A. Abd-Algalil, Sureshchandra Popat Zambare, **Ashraf Mohamed Ali Mashaly** (2016). First record of *Chrysomya saffrana* (Diptera: Calliphoridae) of forensic importance in India. *Tropical biomedicine*, 33(1): 102-108.
32. **Ashraf Mohamed Ali Mashaly**, Fahd A. Al-Mekhlafi (2016). Differential Diptera succession patterns onto decomposed rabbit carcasses in three different habitats. *Journal of Medical Entomology*, 53(5), 1192–1197
33. Alkhedir, Hussein; Karlovsky, Petr; **Mashaly, Ashraf**; Vidal, Stefan (2016). Specialization and host plant use of the common clones of *Sitobion avenae*. *Applied Entomology and Zoology*, 51:289–295.

34. **Ashraf M. A. Mashaly**, Ayman El-Faham (2016). Larvicidal activity of N1,N1,N4,N4-tetramethylpiperazine-1,4-dicarboxamide against *Aedes caspius* and *Culex pipiens*. *Pakistan Journal of Zoology*, 48(2): 493-499.
35. Hussein Alkhedir; Petr Karlovsky; **Ashraf Mohamed Ali Mashaly**; Stefan Vidal (2015). Phylogenetic relationships of the symbiotic bacteria in the aphid *Sitobion avenae* (Hemiptera: Aphididae). *Environmental Entomology*, 44(5): 1358-1366.
36. Nael Abutaha, **Ashraf M.A. Mashaly**, Fahd A. Al-Mekhlafi, Muhammed Farooq, Mohammed Al-shami, Muhammad A. Wadaan (2015). Larvicidal activity of endophytic fungal extract of *Cochliobolus spicifer* on *Aedes caspius* and *Culex pipiens* (Diptera: Culicidae). *Applied Entomology and Zoology*, 50: 405-414.
37. Hussein Alkhedir, Antje Habekuss, Edgar Schliephake, **Ashraf Mashaly** and Stefan Vidal (2015). Do secondary bacterial endosymbionts of aphids affect the vector specificity or transmission efficiency of plant viruses? *African Entomology*, 23(2): 356–360.
38. Mohammed Saleh Al-Khalifa, **Ashraf Mohamed Ali Mashaly**, Mohammed Iqbal Siddiqui, Fahd Abdu Al-Mekhlafi (2015). Samsun Ant, *Brachyponera sennaarensis* (Formicidae: Ponerinae): Distribution in Saudi Arabia. *Saudi journal of biological sciences*, 22: 575-579.
39. Nael Abutaha, **Ashraf MA Mashaly**, Muhammad Farooq and Muhammad A Wadaan (2015). Apoptotic Potential of *Artemisia sieberia* Besser (Asteraceae) Fraction against Human Cancer Cell Lines. *Tropical Journal of Pharmaceutical Research*, 14(10): 1779-1785.
40. **Mashaly, A.M.A.**, Ahmed, A.M., Túlio M. Nunes, Morgan, D. (2014). Secretions of the Dufour's gland of some formicidae ants. *African Entomology*, 22(4): 779-782
41. Jamal Khaled, Fahd Al-Mekhlafi, Nael Abutaha, **Ashraf Mashaly**, Abdulla Khalel, Mohamed Wadaan (2014). Efficacy of entomopathogenic fungi isolated from the nest of the samsun ant, *Pachycondyla sennaarensis* against larvae of the mosquitoes *Aedes caspius* and *Culex pipiens*. *Entomologia Generalis*, 35(2): 77- 86
42. **Ashraf Mohamed Ali Mashaly**, Muhammad Farooq, Wael Hozzein, Abdullah Mohammed Al-Qahtani, Fahd Abdu Al-Mekhlafi (2014). Assessment of Toxic Baits for the Control of the Samsun Ant, *Pachycondyla sennaarensis* (Formicidae: Ponerinae). *African Entomology*, 22(1): 204-209
43. Khalil A.I., Hassouna M.S., Shaheen M.M., Abou Bakr M.A., **Mashaly A.M.A.** (2014). Monitoring of physical, chemical, microbial and enzymatic parameters during composting of municipal solid wastes: a comparative study. *Journal of Pure and Applied Microbiology*, 8(1): 211-224.
44. Hossam Ebaid, Iftekhar Hassan, Samir Bashandy, Nael Abu Taha, Amer Mahmood, Suliman Alomar, Ibrahim Alhazza, **Ashraf Mashaly**, Ahmed Rady (2014). Zinc improves the immune function and the proliferation of lymphocytes in Cadmium-treated rats. *Experimental immunology*, 39 (4): 441-448.
45. **Mashaly, A.M.A.**, Al-Mekhlafi, F.A. and Al-qahatani, A.M. (2013). Food Preferences and Foraging Activity of Field Populations of a Samsun Ant, *Pachycondyla sennaarensis*. *Bulletin of Insectology*, 62(2): 187-193
46. Fahd A. Al-Mekhlafi, Nael Abu Taha, **Ashraf M.A. Mashaly**, and Mohamed A. Wadaan (2013). Larvicidal Activity of Selected Xerophytic Plants Against *Culex pipiens* and *Aedes caspius* (Diptera: Culicidae). *Pakistan Journal of Zoology*, vol. 45(1): 241-246

47. Hustert R., **Mashaly, A.M.A.** (2013). Spontaneous behavioral rhythms in the isolated CNS of insects – Presenting new model systems. *Journal of Physiology- Paris*, 107: 147–151.
48. Al-Mekhalfi, F.A., **Mashaly, A.M.A.**, Wadaan, M.A., Al-Mallah, N.M. (2012). Overlap effects of Cryomazine concentration, treatment method and rearing temperature on Southern cowpea weevil *Callosobruchus maculatus* reared on Mung bean. *Pakistan journal of Zoology*, 44(1): 285-290.
49. Al-Mekhalfi, F.A., **Mashaly, A.M.A.**, Ebaid, H., Wadaan, M.A., Al-Mallah, N.M. (2012). Control of the seed beetle *Callosobruchus muculatus* reared on chickpeas by different applicable conditions of the insect growth regulator, Cyromazine. *Scientific Research and Essays*, 7(1): 55-60.
50. Al-Mekhalfi, F.A., **Mashaly, A.M.A.**, Wadaan, M.A., Al-Mallah, N.M. (2012). Effect of different applicable conditions of the insect growth regulator (Cyromazine) on the Southern cowpea weevils, *Callosobruchus maculatus* reared on peas. *Pakistan journal of Zoology*, 44(2), pp.481-488.
51. Mahmoud Fadl Ali, **Ashraf Mohamed Ali Mashaly**, Tarek Mohamed Abd El Aziz (2011). The bioactivity of some plant extracts against the carpet beetle *Attagenus fasciatus* (Thunberg) (Coleoptera: Dermestidae). *J Journal of the Egyptian-German Society of Zoology*, 63E: 71-98.
52. **Mashaly, A.M.A.**, Ahmed, A.M. Al-Abdula, M.A. and Al-Khalifa, M.S. (2011). The trail pheromone of the venomous samsun ant, *Pachycondyla sennaarensis*. *Journal of Insect Science*, 11: 1-12.
53. **Mashaly, A.M.A.**, Shoker, N.I. and Negm, M.W. (2011). Observations on mites associated with three ant species (Hymenoptera: Formicidae), from Saudi Arabia. *Pakistan journal of Zoology*, 43(6):1095-1100.
54. **Mashaly, A.M.A.** (2011). Trail communication in two Messor species, *Messor meridionalis* and *Messor foreli* (Hymenoptera: Formicidae). *Italian journal of Zoology*, 78(4): 524-531.
55. Al-Mekhalfi, F.A., **Mashaly, A.M.A.**, Wadaan, M.A., Al-Mallah, N.M. (2011). Cryomazine concentration and host type effects on the biology of the southern cowpea weevil *Callosobruchus maculatus* F. *African journal of microbiology research*, 5(20): 3321-3326.
56. Al-Mekhalfi, F.A., **Mashaly, A.M.A.**, Wadaan, M.A., Ahmed A. Mahmoud Abdel Mageed, Al-Mallah, N.M. (2011). Overlap effects of cyromazine concentration, treatment method and rearing temperature on the Southern cowpea weevil *Callosobruchus maculatus* F. reared on cowpea. *African journal of microbiology research*, 5(32): 5848-5853.
57. Ali, M. F., **Mashaly, A.M.A.**, Mohammed A.A. and Abo El -Magd M.M. (2011). Effect of temperature and relative humidities on biology of the carpet beetle *Attagenus fasciatus* (Thunberg) (Coleoptera: Dermestidae). *Journal of Stored Products Research*, 47(1): 25-31
58. Siddiqui, M.I., **Mashaly, A.M.A.**, Ahmed, A.M., Fahd A. Al-Mekhlafi, Al-Khalifa, M.S. (2010) Ultrastructure of Antennal Sensilla of the Samsun ant, *Pachycondylla sennaarensis* (Hymenoptera: Formicidae: Ponerinae) from Saudi Arabia. *African Journal of Biotechnology*, Vol. 9(41), pp. 6956-6962
59. Al-Khalifa, M.S., Ahmed, A.M., **Mashaly, A.M.**, Al-Mekhlafi, F. Khalil, G., Siddiqui, M.I. and Ali, M.F. (2010). The samsun ants, *Pachycondyla sennaarensis*: Distribution and seasonal changes in Riyadh region. *Pakistan journal of Zoology*, 42(6), pp. 707-713
60. **Mashaly, A.M.A.** (2010). Monomorium ant's trail pheromones: Glandular source, optimal concentration, longevity and specificity. *J. Asian Pacific Entomol.* 13: 23-26

61. **Mashaly, A.M.A.**, Ali, A.S., Ali, M.F. (2010). Source, optimal dose concentration and longevity of trail pheromone in two *Monomorium* ants (Formicidae: Hymenoptera) *Journal of King Saud University - Science*. 22 (2): 57-60.
62. **Mashaly, A.M.A.**, Ahmed, A.M., Al-Khalifa, M. S., Túlio M. Nunes, Morgan, D. (2010). Identification of the alkaloidal venoms of some *Monomorium* ants of Saudi Arabia. *Biochemical Systematics and Ecology*, 38:875–879.
63. **Ashraf Mashaly**, Margret Winkler, Ina Frambach, Heribert Gras, Friedrich-Wilhelm Schürmann (2008). Sprouting interneurons in mushroom bodies of adult cricket brains. *The Journal of Comparative Neurology*, 508 (1): 153-174.
64. **Mashaly A.M.A.**, Ali, A.S. Ali, M.F. (2008). Trail Communication In *Paratrechina longicornis* (Latreille) and *Paratrechina vividula* (Nylander) (Hymenoptera: Formicidae). *Egyptian Journal of Zoology*, 51: 449-459.
65. **Mashaly A**, Schürmann F-W, Frambach I. (2003). A substrate for plasticity: Sprouting neurons in an olfactory neuropile of the mature cricket brain. *Comp Biochem Physiol* 134A:S67–S68.
66. Ali M. F. and **Mashaly A.M.A.** (1997): Trail pheromone investigation of some Pheidole ants (Formicidae: Hymenoptera). *Egyptian Journal of Zoology*, 28: 113-123.
67. Ali M. F. and **Mashaly A.M.A.** (1997): Study on trail pheromone of three myrmicine species, *Leptothorax angulatus* Mayr, *Tetramorium simillimum* Smith and *Crematogaster inermis* Mayr (Formicidae:Hymenoptera). *Journal of the Egyptian-German Society of Zoology*, 24, 1-16(E).

B. Books

- Dictionary for Forensic Entomology (2021). English – Arabic. Naif University press.
- Insect Biotechnology (2014). English to Arabic translation. King Saud University Press.
- Trail Pheromones in Pest Control. In: New Perspectives in Plant Protection. (2012) Book Chapter. InTech.

References

Ehab Abouheif

James McGill Professor
 McGill University
 +1 514-398-7190
ehab.abouheif@mcgill.ca

Mohamed Abdelhameed

Chairman
 CISSD
 +1 438-821-9566
cissd.institute@gmail.com

Mohamed Al-Khalifa

Zoology department, College of Sciences,
 King Saud University, 11451 Riyadh, Saudi Arabia
 Tel.: +966504234722
mkhalifa@ksu.edu.sa