

Research Lab Sheet

Lab Name	Entomology and Environmental toxicology
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Basic Information

Department	Zoology
Location	Science faculty; Building 3 (4 th floor) and (5 th floor)
Total area (m ²)	~20 m ² (4 th floor) + ~12 m ² (5 th floor)
Establishment date	Separated from invertebrates and build in 2020
Academic Year	2021/2022

Lab Members

No. of Prof.	No. of Ass. Prof.	No. of Lect.	No. of Ass. Lect. & Demonst.	No. of technicians
1	1	1	2	0

Staff members

#	Name	Scientific degree	e-mail	Specializations	C.V
1	Azza M. H. Khedre	Prof.	azzakhedre@yahoo.com	Medical Entomology	https://staffsites.sohag-univ.edu.eg/stuff/posts/show/5751?p=posts
2	Nasra M. H. Zohry	Ass. Prof.	nasramohamed917@gmail.com	Entomology	https://staffsites.sohag-univ.edu.eg/nasra_zohari
3	Mohamed A. Abdalaziz	Lecturer	mohamed.alaraby@science.sohag.edu.eg	Entomology & Environmental toxicology	https://staffsites.sohag-univ.edu.eg/mohamed.alaraby

Ass. Lecturers & Demonstrators

#	Name	Scientific degree	e-mail	Specializations	
1	Salwa A. Ali Mohamed	Ass. Lecturer	salwaanwar_ali@yahoo.com	Entomology	
2	Ali A. Elsayed Elaref	Demonstrator	aliashryelsayed@gmail.com	Entomology	
3					

Theses produced by the Lab

M Sc Thesis

No.	Title	Approval date
1	Biological studies on the fleshfly <i>Wiedemania nuba</i> (Wiedemann) in Egypt	1991
2	Morphological and Experimental Studies on the Blowfly <i>Chrysomya megacephala</i> (Fabricius) (Diptera: Calliphoridae), in Egypt	2002
3	Studies on some aquatic insects as bioindicators of heavy metals at different sites in Sohag Governorate.	2010
	Synanthropic flies as mechanical carriers of pathogenic microorganisms at different animal rearing places in Sohag Governorate	2017
4	Preparation, Characterization and Efficiency of Nano-emulsions of Certain Plant Oils against The Grain Weevil, <i>Sitophilus granarius</i> .	2021

Ph.D. Thesis

1	Behavioural and biochemical studies on the fleshfly <i>Wiedemania nuba</i> (Wiedemann) in Egypt	1995
2	Aberration of Some Insecticides on Some Biological Aspects of The Cotton Leafworm <i>Spodoptera littoralis</i> (Lepidoptera: Noctuidae)	2006
3	Biological effects of nanomaterials in <i>Drosophila melanogaster</i> (Diptera, Insecta) as in vivo model.	2016

Articles	
No.	Title
1	Omar, A. H.; Adham, F. K.; Soliman, F. S. and Khedre , A M. (1992). Laboratory rearing of <i>Wohlfahrtia nuba</i> (Wied.) (Diptera: Sarcophagidae) in Egypt. J. Egypt. Soc. Parasit., 22 (1): 271-278.
2	Adham, F. K.; Omar, A. H.; Soliman, F. S. and Khedre , A M. (1992). Mating behaviuor of fleshfly <i>Wohlfahrtia nuba</i> (Wied.) (Diptera: Sarcophagidae). Bull, Ent. Soc. Egypt, 70: 225-231.
3	Soliman, F. S. ; Adham, F. K.; Omar, A. H.; and Khedre , A M. (1992). The effect of food on adult longevity and sex maturation in the fleshfly <i>Wohlfahrtia nuba</i> (Wied.) (Diptera: Sarcophagidae). Bull, Ent. Soc. Egypt, 70: 217-224.
4	Khedre , A M. (1997). Olfactory sensilla on the antennae and maxillary palps of the fleshfly <i>Wohlfahrtia nuba</i> (Wied.) (Diptera: Sarcophagidae). J. Egypt. Ger. Soc. Zool., 24(E): 171-193.
5	Khedre , A M. (1998). Oogenesis and expression of autogeny in relation to larval diet and population density of <i>Wohlfahrtia nuba</i> (Wied.) (Diptera: Sarcophagidae). J. Egypt. Ger. Soc. Zool., 25(E): 159-177
6	Khedre , A M. (1999). Scanning electron microscopy of the larval morphological characteristics of <i>Wohlfahrtia nuba</i> (Wied.) and <i>Parasacophaga aegyptiaca</i> (Salem) (Diptera: Sarcophagidae). Egypt. J. Zool., 33: 237-250.
7	Khedre , A M. (1999). Comparative scanning electron microscopic study of <i>Chrysomya megacephala</i> (Fabr.) and <i>Chrysomya albiceps</i> (Wied.) larvae (Diptera: Calliphoridae). J. Egypt. Ger. Soc. Zool., 28(E): 203-216.
8	Khedre , A M. (2000). Effect of larval competition on rate of development and fecundity of fleshfly <i>Parasacophaga aegyptiaca</i> (Salem) (Diptera: Sarcophagidae). Bull, Ent. Soc. Egypt, 78
9	Khedre , A M. ; Soliman, F. S.; Omar, A. H.; and Hasaneen N. M. (2000). Histological changes in the developing ovary of the blowfly <i>Chrysomya megacephala</i> (Fabr.) related to adult protein diet. Egypt. J. Zool., 35: 300-309.
10	Khedre , A M. ; Soliman, F. S.; Omar, A. H.; and Hasaneen N. M. (2001). The influence of larval nutrition on egg production and adult longevity of <i>Chrysomya megacephala</i> (Fabr.) (Diptera: Calliphoridae). 1st Efflaton's conf. Ent.
11	Adham, F. K. and Khedre, A M. (2001). Larval aggregation and competition for food in experimental populations of <i>Chrysomya albiceps</i> (Wied.) and <i>Wohlfahrtia nuba</i> (Wied.) (Diptera: Sarcophagidae). 1st Efflaton's conf. Ent.
12	Khedre , A M. (2002). Ultrastructural studies on the midgut of <i>Wohlfahrtia nuba</i> (Wied.) larvae (Diptera: Sarcophagidae). Efflatoun's J. Entomol., 2:1-20.
13	Khedre , A M. (2003). The effect of male size of fleshfly <i>Wohlfahrtia nuba</i> (Wied.) larvae (Diptera: Sarcophagidae) on successful insemination and on female remating behavior. Bull. Entomol. Soc. Egypt 80: 9-21.
14	Khedre, A M. (2003). Factors affecting primary sexual receptivity and readiness to remate in the blowfly <i>Chrysomya albiceps</i> (Wied.). Bull. Entomol. Soc. Egypt 80: 107-118.
15	Khedre , A M. (2003). Effect of cadmium toxicity and population density on growth and survival of fleshfly <i>Wohlfahrtia nuba</i> (Wied.) larvae (Diptera: Sarcophagidae). Bull. Entomol. Soc. Egypt 29: 229-243.
16	Khedre , A M. ; Soliman, F. S.; Omar, A. H.; and Hasaneen N. M. (2003). Histological

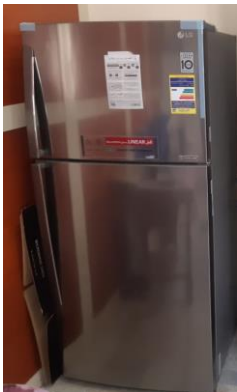


17	structure of the midgut in the developmental stages of blowfly <i>Chrysomya megacephala</i> (Diptera: Calliphoridae). J. Egypt Ger. Soc. Zool., (40C: 43-64).
18	Khedre , A M. and Habib, T. N. (2005). The inheritance patterns and occurrence of spontaneous mutations in the eye colour of <i>Chrysomya albiceps</i> (Wied.) (Diptera: Calliphoridae). Egypt. J. Zool., 45: 225-243.
19	Khedre , A M. (2005). Effect of Diazepam on the development of <i>Wohlfahrtia nuba</i> (Wied.) (Diptera: Sarcophagidae) and determination of drug levels in postmortem tissue, larvae and puparia. Egypt. J. Zool., 45: 349-360.
20	Khedre , A M. (2007). Effect of temperature on the development and biometry of <i>Wohlfahrtia nuba</i> (Wied.) (Diptera: Sarcophagidae) and its forensic implication. J. Egypt Ger. Soc. Zool., 53A: 219- 234.
21	Nasra , M. H. Z. (2008): Effect of flufenoxuron on the antennal sensilla of <i>Spodoptera littoralis</i> (Lepidoptera: Noctuidae). Egypt. Acad. J. Biolog. Sci., 1(2): 13-25.
22	Nasra , M. H. Z. (2010): Morphological evidence for possible sites of production of female sex pheromone of <i>Spodoptera littoralis</i> (Lepidoptera: Noctuidae). Egypt. Acad. J. biolog. Sci., 1 (1): 29-36.
23	Mansour, S. A.; Bakr, R. F.A.; Mohamed, R. I. and Hasaneen, N. M. (2011): Larvicidal activity of some botanical extracts, commercial insecticides and their binary mixtures against the housefly, <i>Musca domestica</i> L. Open Toxinol. J., (4):1-13.
24	Nasra , M. H. Z. (2013): Histological studies of the pheromone-producing gland in female of <i>Spodoptera littoralis</i> (Lepidoptera: Noctuidae). Egypt. Acad. J. Biolog. Sci., 4 (1): 15-28.
25	Abdalaziz M.A., Annangi B., Marcos R. (2014). Testing the genotoxic potential of nanomaterials using <i>Drosophila</i> . In: Genotoxicity and DNA repair: A Practical Approach. Methods in Pharmacology and Toxicology. L.M. Sierra and I. Gaivão (eds). ©Springer Science + Business Media New York, pp. 297-304.
26	Arnaldos, M.I., Khedre , A., Begona, I., Presa, J.J., Clemente, M.E., Lopez-Gallego, E., Martinez, A.B., Pérez-Marcos, M. and Garcia, M.D., 2015. Diptera succession during early decomposition stages in a Mediterranean pinewood umbrage. Austin J. Forensic Sci. Criminol, 2, p.1033.
27	Alaraby M. , Annangi B., Hernández A., Creus A., Marcos R. (2015). A comprehensive study of the harmful effects of ZnO nanoparticles using <i>Drosophila melanogaster</i> as an <i>in vivo</i> model. <i>Journal of Hazardous Materials</i> , 296: 166-174..
28	Alaraby M. , Demir E., Hernández A., Marcos R. (2015). Assessing potential harmful effects of CdSe quantum dots by using <i>Drosophila melanogaster</i> as <i>in vivo</i> model. <i>Science of the Total Environment</i> , 530-531: 66-75
29	Alaraby M. , Hernández A., Annangi B., Demir E., Bach J., Rubio L., Creus A., Marcos R. (2015). Antioxidant and antioxidative properties of CeO ₂ NPs and cerium sulphate: Studies with <i>Drosophila melanogaster</i> as a promising <i>in vivo</i> model. <i>Nanotoxicology</i> , 9: 749-759
30	Alaraby M. , Hernández A., Marcos R. (2016). New insights in the acute toxic/genotoxic effects of CuO nanoparticles in the <i>in vivo</i> <i>Drosophila</i> model. <i>Nanotoxicology</i> , 10(6): 749-760.
31	Alaraby, M. , Annangi, B., Hernández, A., Marcos, R. (2016). <i>Drosophila melanogaster</i> as a suitable <i>in vivo</i> model to determine potential side-effects of nanomaterials. A review. <i>Journal of Toxicology and Environmental Health, Part B</i> , 19: 65-104.
32	Annangi B., Rubio L., Alaraby M. , Bach J., Marcos R., Hernández A. (2016). Acute and long-term <i>in vitro</i> effects of zinc oxide nanoparticles. <i>Archives of Toxicology</i> , 90: 2201-2213.
33	Adham, F. K; Khedre , A. M.; Ismail, T. G.; El-Araby , M. Shahenda, A. A. Abu ElELA and



الاسم الجامعة الكلية العلمية	Mael M. Elsayed. (2016): Buccal deformations in chironomid larvae (Diptera: Chironomidae) as an indicator risk assessment and anthropogenic stresses of pollution in fresh water of the River Nile, Sohag Governorate, Egypt. J.Bio.Env.Sc.8 (6)37-48.
34	Alaraby M., Hernández A., Marcos R. (2017). Copper oxide nanoparticles and copper sulphate act as antigenotoxic agents in <i>Drosophila melanogaster</i>. <i>Environmental and Molecular Mutagenesis</i>, 58: 46-55.
35	Nasra, M. H. Z. (2017): Scanning electron morphological studies of <i>Tribolium confusum</i> Jacquelin du Val (Coleoptera: Tenebrionidae). J. Basic & Appl. Zool.,78 (1),p.6.
36	Khedre, A. M., Ismail, T. G., Yousif, A. A., Hashem, G. A. (2017): Pathogenic bacteria carried by synanthropic filthy flies (<i>Musca</i> species) at farmed animals in Sohag Governorat, Egypt 1-Isolation and identification of bacteria using standard microbiological procedures. Egypt. J. Zool., 68:23- 36
37	Alaraby M., Hernández A., Marcos R. (2018). Systematic <i>in vivo</i> study of NiO nanowires and nanospheres: Biodegradation, uptake and biological impacts. <i>Nanotoxicology</i>, 12: 1027-1044.
38	Pérez-Marcos, M., Arnaldos, M. I., López-Gallego, E., Luna, A., Khedre, A., & García, M. D. (2018). An approach for identifying the influence of carcass type and environmental features on sarcosaprophagous Diptera communities. <i>Annales de la Société entomologique de France</i> (NS) (Vol. 54, No. 4, pp. 367-380). Taylor & Francis.
39	Alaraby M., Romero S., Hernández A., Marcos R. (2019). Toxic and genotoxic effects of silver nanoparticles in <i>Drosophila</i>. <i>Environmental and Molecular Mutagenesis</i>, 60: 277-285.
40	Nasra, M. H. Z. and El-Sayed, A. M. (2019): Morphology, histology, and chemistry of the wings of <i>Tribolium castaneum</i> and <i>Tribolium confusum</i> coleoptera: Tenebrionidae). J. Basic & Appl. Zool., 80:16.
41	Nasra, M. H. Z. (2019): Ultrastructure studies on the sensilla of the mouth parts and antennae of the pre-adult stages of <i>Sitophilus granaries</i> (Coleoptera: Curculionidae). Assiut Univ. J. of Zoology 48(2), pp.234-257.
42	Khedre, A. M., Ismail, T. G., Yousif, A. A., Hashem, G. A. (2020): Pathogenic bacteria carried by synanthropic filthy flies (<i>Musca</i> species) at farmed animals in Sohag Governorat, Egypt 2-Percentage of bacterial infection in <i>Musca</i> species. Orally presented in the 3th international Conference of Biological and Environmental Sciences and their applications, Aswan, Egypt.
43	Alaraby M., Demir E., Domenech J., Velázquez A., Hernández A., Marcos R. (2020). <i>In vivo</i> evaluation of the toxic and genotoxic effects of exposure to cobalt nanoparticles using <i>Drosophila melanogaster</i>. <i>Environmental Science: Nano</i>, 7: 610-622.
44	Zohry, N. M. H.; Ali S. A. and Ibrahim A. A. (2020): Repellency of ten edible and essential native plant oils to the granary weevil, <i>Sitophilus granarius</i> L. (Coleoptera: Curculionidae). Egypt. Acad. J. Biolog. Sci., 13(4): 187-197
45	Zohry, N. M. H.; Ali S. A. and Ibrahim A. A. (2020): Toxicity of ten Native edible and essential plant oils against the Granary Weevil, <i>Sitophilus granarius</i> L. (Coleoptera: Curculionidae). Egypt. Acad. J. Biolog. Sci., 12(2): 219- 227
46	Alaraby M., Hernández A., Marcos R. (2021). Novel insights into biodegradation, interaction, internalization and impacts of high-aspect-ratio TiO₂ nanomaterials: A systematic <i>in vivo</i> study using <i>Drosophila melanogaster</i>. <i>Journal of Hazardous Materials</i>, 409: 124474.

Lab instruments						
#	Device	quantity	Quality			
			Good	Poor	Need maintenance	malfunction
1	Low temperature Incubator 815	1	√			
2	Deep freezer	1	√			
3	Lab incubator	1	√			
4	Refrigerator LG	1	√			
5	Microwave	1	√			
6	Shaker	1	√			
7	Hot plat (Stir)	1	√			
8	Pipettes	4	√			
9	pH meter	1	√			
10	Conductivity meter	1	√			
11	Water funnel pump	1	√			
12	Weighting balance	1	√			
13	Dissecting microscope	2	√			
14	Research microscope	1	√			

Instruments Description		
Device name	Device image	Description /use
1-Low temperature Incubator 815		-To keep biological and environmental samples at various °C -Provide an optimal condition of temperature, humidity, and other
2-Refrigerator LG		To keep biological and environmental samples at 0 °C
3-Deep freezer		To keep biological and environmental at -20 °C
4-Lab incubator		Provide an optimal condition of temperature, humidity, and other
5- Microwave		To digest biological and environmental samples and



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Faculty of Science

حاصلة على شهادة الاعتماد من الهيئة القومية
لضمان جودة التعليم والاعتماد في 2012/7/12م



جامعة سوهاج
University of Sohag

		autoclave tools.
6-Shaker		To dissolve and mix materials (currently we used to separate microplastics)
7- Hot plat (Stir)		• To warm aqueous samples. • Used for mixing different chemicals at certain temperatures with aiding magnetic stirrers.
8- Pipettes		To pick up small quantities of solutions.
9- pH meter		To measure and adjust pH of liquids and environmental samples.
10- Conductivity meter		To determine the total dissolved ions in the environmental samples.



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11- Water funnel pump		Aiding in separating mixtures (we used to separate Microplastics from environmental and biological samples)
12- Weighting balance		-To weigh different chemical substances and biological samples that used during various experiments.
13-Dissecting microscope		To dissect various biological samples and to investigate microplastics
14-Research microscope		To study and examine various cells, tissues and small insects.

Evaluate the fulfillment of lab to appropriateness of areas, building installations, facilities and human resources standards

Areas of assessment		Indicators	Yes	Some what	No
Floor area and capacity	1	Adequacy of the total capacity of the lab for the number of researcher (1).	√		
Windows and doors	2	Availability of windows for adequate ventilations.	√		
	3	Ease of use of windows.	√		
	4	There are two exits (doors) at least (2).			√
	5	There are signs to locate directions of emergency exits			√
Equipment	6	Appropriate temperature during the lectures (3).		√	
	7	Availability of good ventilation (4).	√		
	8	The existence of adequate lighting (4).	√		
	9	Lab is connected to the Internet			√
	10	The existence of directions inside the Lab showing entrances and emergency exits.			√
Security and Safety	11	Existence of firefighting equipment near the hall (5).			√
	12	Cleanliness of the room.	√		

1. Minimum area: 1m² for each person.
2. Doors characteristics: Consists of one movable piece - opening to the inside.
3. The appropriate temperature is 18-25 °C in winter and 28°C in summer due to air-condition use.
4. Providing adequate lighting and good ventilation: windows area 10-15% of the floor area
5. Security and safety requirements: evacuation plan / evacuation responsible person/ fire distinguishers / bucket of sand / water source / good condition extinguish hoses / alarm system against fire).