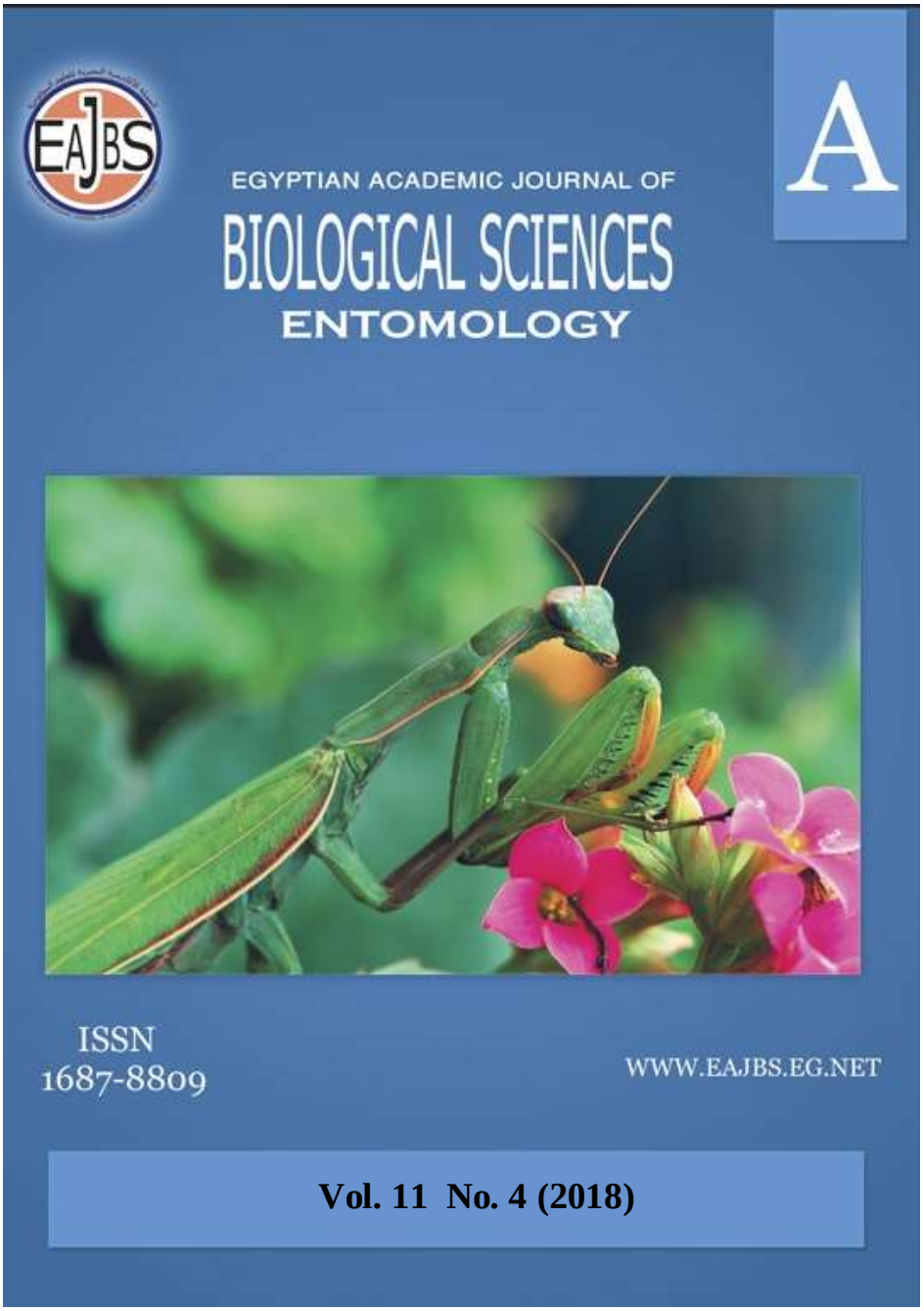


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# Occurrence of Different Mites associated with Different Cereals and Legumes Crops in different locations of Egypt

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**ABSTRACT**

This study proves the occurrence of 60 mite specie belonging to 42 genera under 22 families. These mites ar belonging to 4 suborders Acaridida (Astigmata), Actinedid (Prostigmata), Gamasida (Mesostigmata) and Oribatid (Cryptostigmata). The astigmatid mites in this study wer represented by 7 families, 17 genera and 23 different species. O the other hand the number of mites' species in suborde Prostigmata was 26 species in 18 genera belong to 10 families. Th obtained data indicated that the mesostigmatids were represente by 9 different species in 5 genera and 3 different families. Th current study showed that the mites that belong to suborde Cryptostigmata were 2 mites only, 2 genera in 2 families. The mos abundant mites were *Tyrophagus putrescentiae, Caloglyphu berlesi* and *Rhizoglyphus echinopus* (Acaridae); *Suidasia nesbitt* (Suidasidae); *Glycyphagus domesticus* (Glycyphagidae) *Dermatophagoides farinae* (Pyroglyphidae); *Cheyletu malaccensis* and *C. eruditus* (Cheyletidae); *Pymotes herfes* (Pyemotidae); *Cunaxa capreolus* (Cunaxidae); *Orthotydeu californicus* and *O. kochi* (Tydeidae); *Blattisocius keegani* an *Proctolaelaps pygmaeus* (Ascidae). The stigmaeid mite, *S africanus* was determined in all tested regions with high numbers.

## INTRODUCTION

Food legumes include a number of bean crops that are used for human consumption, such as broad beans (*Vicia faba*), Kidney bean (*Phaseolus vulgaris*), and soybeans (*Glycine max* (L.). Legumes are an important source of good quality dietary proteins and a good source of vitamins such as folate and dietary minerals like calcium, iron, magnesium and zinc. Antioxidants and other health-promoting substances in legumes also help to reduce the risks associated with some diseases such as cancer. Hence food legumes, especially vegetable legumes, are a boon to human health and are cultivated as valuable commercial crops, both for domestic and export markets (Srinivasan, 2014). Serious economic damages on grains and seeds resulting from infestation may occur in developed countries due to the high added value of seeds and

low economic injury level (Stejskal, 2003). Stored seeds are vulnerable to pest attack because of their prolonged period of storage (often more than one year) and because seed varieties are stored in relatively small quantities in separate packages that usually exclude the possibility of active ventilation and of regular inspection and monitoring. Mites are the main pests of stored grains and vegetable seeds that can decrease seed germinability by 52% after 3 months of infestation under laboratory conditions (Stejskal *et al.*, 2014). Zdarkova (1996) estimated a rapid decrease in the germination of wheat, maize, and oat seeds after 3 and 6 months of storage due to infestation by 2 mite species (*A. siro, T. putrescentiae*). These mites are responsible for the spread of various fungal spores throughout a grain mass and into adjoining bins. When present in large numbers, the flour or grain mites promote sweating and impart a disagreeable odor to the grain. Grain mites can cause "grocer's itch" in humans exposed to the mites. Some persons may be allergic to mites. In stored grains they cause great economic loss not so much by what they eat as by the damage they cause by changing the moisture content of the medium and initiating the growth of moulds (Nesbitt, 1945). Several species of acarids are found associated with stored cereals, grains and stored food products. *Tyrophagus lintneri* (Osborne) is a widely distributed pest of stored foods and at times quite serious *Acarus siro* Linn. is a cosmopolitan and destructive species found in grain, flour, dried fruits, and vegetables as well as in cheese. The flour mite. *Aleorobius farinae* (DeGeer) is yet another common species on cereals, flour, seeds, cheese, etc., and is a serious pest in flour mills, granaries and ware houses. *Tyrophagus longior* (Gervais) is another European species, and it has been stated that an entire hay stalk was practically destroyed by this mite. It also infests food stuffs (Essig, 1958). It is seen that very little is known of the role played by the several mite predators and parasites in checking populations of injurious mites and insects. An intimate knowledge of their ecology will help in a better utilization of these natural enemies.

## MATERIALS AND METHODS

Incidence and occurrence of different mite species associated with different cereals and legumes products in different regions of Egypt differed in their ecological conditions were determined. General survey from 4 Egyptian governorates was undertaken for two years 2016 and 2017. The studied governorates were: El-Dakahlia (Aga, El-Sinbilawein and Meit Ghamr districts), El-Behira (Rashid districts), El-Menofia (El-Sadat, Ashmoun, Menouf and El-Bagour districts), Beni Suief (Beni Suief and Beba). Samples of different stored products, namely (rice, wheat, maize as cereals), (broad beans (*Vicia faba*), Kidney bean, *Phaseolus vulgaris* and soybeans as food legumes). These include a number of bean crops that are used for human consumption, such as were occasionally collected from some groceries and houses.

**Sample Collection, Isolation, Mounting And Identification:**

Tested samples were collected from different faunas and transferred to the Cotton and Field Crops Acarology Department of Plant Protection Research Institute, Agricultural Research Center for separation in the same day of the samples collection. Mites were extracted using a Berlese funnels, and collected by aid of stereomicroscope. Specimens were removed, cleared in Nesbitt's solution and mounted in Hoyer's medium on glass microscopic slides for identification. Collected mites were kept in Nesbitt's solution for about 24 hours for clearing them (Krantz and Walter, 2009). Nesbitt's solution is powerful clearing agent which act as solvent to the internal tissues and viscera thus it keep the external tissues intact and is

prepared as chloral hydrate (40 gm), distilled water (25 ml), and hydrochloric acid (2.5 ml.). For mounting the collected mites, Hoyer's medium was used, which was prepared as follow: distilled water (50 ml), chloral hydrate (50 gm), glycerin (20 ml), and Arabic gum (30 gm) (Krantz and Walter, 2009). The identification of different collected mites were identified according to Hughes (1961, 1976), Summers and Price (1970), Zaher (1986), Fan and Zhang (2003, 2004 and 2007), and Krantz and Walter (2009).

## RESULTS AND DISCUSSION

In the course of the present investigation samples of 6 different stored legumes and cereals material were found to be adversely and variously infested with different mite species in different investigated groceries and houses of different regions in Egypt.

This work as shown in Table (1) proves the occurrence of 60 mite species belonging to 42 genera under 22 families. These families are belonging to 4 suborders Acaridida (Astigmata), Actinedida (Prostigmata), Gamasida (Mesostigmata), and Oribatida (Cryptostigmata). The astigmatids were represented by 7 families, 17 genera and 23 different species. On the other hand the number of mites' species in suborder Prostigmata was 26 in 18 genera belong to 10 families. The obtained data in Table (1) also indicate that the mesostigmatids were represented by 9 different species in 5 genera and 3 different families. The current study shows that the mites belong to suborder Cryptostigmata were 2 mites only, 2 genera in 2 families. Table (1) also shows that the collected mites are abundant with their habitat and locations. The most abundant mites were *Tyrophagus p*utrescentiae, *Caloglyphus berlesi* and *Rhizoglyphus ech*inopus (Acaridae); Suidasia *nesbitti* (Suidasidae); *Glycyphagus domesticus* (Glycyphagidae); *Dermatophagoides farinae* (Pyroglyphidae); *Cheyletus malaccensis* and C. eruditus (Cheyletidae); *Pymotes herfesi* (Pyemotidae); *Cunaxa capreolus* (Cunaxidae); *Orthotydeus californicus* and *O. kochi* (Tydeidae); *Blattisocius keegani* and *Proctolaelaps pygmaeus* (Ascidae).

As shown in Table (2), the acarid mites (most abundant mites) were extracted from 6 different stored material followed by glycyphagid mites, which inhabiting 5 different material. The mites of families Suidasidae, Pyroglyphidae and Carpoglyphidae were collected associated with two different stored material. Whoever, the lardoglyphid and chortoglyphid mites were found associated with one stored material for each. The mites in the families Cheyletidae, Tarsonemidae, and Tydeidae infested more stored products (5 material) for each more than any collected families in the suborder Prostigmata, while stigmaeid mites infested 4 tested material. The families Bdellidae and Raphignathidae were collected inhabiting 3 different material. The mites of the family Cunaxidae were noticed associated with 2 stored material, while mites of Pyemotidae, Caligonellidae, and Eupodidae inhabited one stored material for each (Table 2). On the other hand, the mites of the families Ascidae, Macrochelidae, and Uropodidae (Suborder Mesostigmata) as shown in Table (2) were investigated associated with 5, 3 and 1 stored product material, respectively, but the cryptostigmatids (Oppiidae and Oribatulidae) were collected from 2 stored material for each. Many authors all over the world, surveyed stored product mites in various stored products i.e. cereals (wheat, maize, rice) and legumes (broad bean, kidney bean, soybean) and their products. Abdel Khalik (2013) surveyed the mites associated with different stored products at different areas of Menoufia Governorate. Data proved the occurrence of 82 mite species belonging to 54 genera under 30 families belong to 4 suborders. Survey researches associated

with stored product mites were done by many authors; Hughes (1961) for prostigmatid mites and Mouray and Jamil (1982) for acarid mites. Also, Attiah (1969) studied the tyroglyphid mites, while, Zaher (1986), El-Naggar *et al.*, (1992), and Mostafa and Shokeir (1994) recorded several mite species associated with stored products. In their study, Zaher *et al*. (1986) noticed that members of the families Cheyletidae and Acaridae were the most common mites, found in many stored seeds and food products in Upper Egypt, but those of Caligonellidae, Ascidae, and Raphignathidae were fairly common but occurred in fewer types of samples.

Table (1): Incidence of different collected stored product mites at El-Dakahlia, El-Behira, El-Menofia, and Beni Suief Governorates during 2016-2017.

| Mite species | Locality | Host (s) | Abu. |
|---|---|---|---|
| **Suborder Acaridida (Astigmata)** | | | |
| **Family Acaridae**<br>*Tyrophagus putrescentiae* (Schrank) | All tested regions | Wheat, maize | +++ |
| *Acarus siro* (L.) | Berket El-Sabaa | Kidney bean | + |
| *Caloglyphus hughesi* (Samsinak) | Shebein El-Koum, | Maize, wheat | + |
| *Caloglyphus oudemansi* (Zachvatkin) | Shebein El-Koum | Wheat, rice | ++ |
| *Caloglyphus berlesi* (Michael) | Ashmoun, Beba | Broad bean, kidney bean | +++ |
| *Caloglyphus betae* (Attiah) | Shebein El-Koum, Ashmoun, Beba | Wheat, kidney bean | ++ |
| *Rhizoglyphus echinopus* (Fumouze & Robin) | Aga, Rashid, Meit Ghamr | Kidney bean, rice | +++ |
| *R. robini* (Claparede) | El-Sadat, Berket El-Sabaa | Rice | ++ |
| *Aleuroglyphus ovatus* (Tropeau) | Shebein El-Koum | Soybean | + |
| *Carpoglyphus lactis* (L.) | Ashmoun, El-Sinbilawein | Wheat,broad bean | ++ |
| *Mycetoglyphus Fungivorous* (Oud) | El-Bagour, Beni Suief | Kidney bean | + |
| **Family Suidasidae**<br>*Suidasia nesbitti* Hughes | Shebein El-Koum, Beba | Soybean, wheat | +++ |
| **Family Lardoglyphidae**<br>*Lardoglyphus zacheri* Oudemans | Ashmoun, Aga | Kidney bean | + |
| **Family Glycyphagidae**<br>*Glycyphagus aegypticus* Attiah | El-Sadat, Rashid | Broad bean , rice | + |
| *Glycyphagus domesticus* (Ddeegeer) | Ashmoun, Menouf | Wheat | +++ |
| *Glycyphagus ornatus (*Kramer) | El-Shohadaa, Queisna | Kidney bean | + |
| *Lepidoglyphus destructor* (Schrank) | Shebein El-Koum, Meit Ghamr, Menouf | Soybean | ++ |
| *Blomia freemani* Hughes | Ashmoun, El-Bagour | Wheat | ++ |
| *Grammolichus malukuensis* (Faim) | El-Bagour, Aga | Wheat | + |
| **FamilyPyroglyphidae**<br>*Goheria fusca* Oud. | El-Shohadaa, Beni Suief, El-Sinbilawein | Maize, soybean | + |
| *Dermatophagoides farinae* (Hughes) | Berket El-Sabaa | Kidney bean, rice | +++ |
| **Family Carpoglyphidae**<br>*Carpoglyphus lactis* (Linnaeus) | -Sadat, Ashmoun | Wheat, maize | + |
| **Family Chortoglyphidae**<br>*Chortoglyphus arcuatus* (Troupeau) | Shebein El-Koum | Wheat | + |

**Table (1): Cont.**

| Mite species | Locality | Host (s) | . |
|---|---|---|---|
| **Suborder Actinedida (Prostigmata)** | | | |
| **Family Cheyletidae**<br>*Cheletogenes ornatus* (C. & F.) | El-Sadat, Beba, El-Sinbilawein | Wheat , soybean | ++ |
| *Cheyletus badryi* Zaher & Hassan | Menouf, Ashmoun | Kidney bean, rice | ++ |
| *Cheyletus malaccensis* (Oudemans) | Shebein El-Koum, | Wheat, maize, rice | +++ |
| *Cheyletus eruditus* (Schrank) | Ashmoun, Rashid | Wheat, maize, soybean, rice, kidney beans | +++ |
| *Cheyletus cacahuamilpensis* Baker | Beni Suief, Rashid | Soybean, wheat | + |
| *Nodele calamodia* (Muma) | Ashmoun, Meit Ghamr | Soybean, kidney bean | + |
| *Ker summeris* Gomaa &Hassan | Ashmoun, Tala | Wheat, kidney | + |
| *Cheletomorpha lepidopterorum* (Shaw) | Shebein El-Koum, El-Shohadaa | Soybean, bod bean | + |
| **Family Bdellidae**<br>*Spinibdella cortices* (Ewing) | El-Sadat, Menouf | Maize | + |
| *Spinebdella bifurcate* Atyeo | Beni Suief, Tala, Aga | Rice, wheat | ++ |
| **Family Pyemotidae**<br>*Pymotes herfesi* (Oud.) | Berket El-Sabaa, Aga | Kidney bean | +++ |
| *Pymotes tritici* (Lagrez Forssote & Montene) | Shebein El-Koum, El-Shohadaa | Kidney bean | + |
| **Family Tarsonemidae**<br>*Tarsonemus granariea* (Lindiquist) | El-Bagour,Beni Suief El-Sinbilawein | Maize, soybean, wheat | + |
| *Tarsonemus gladifier* (Mahunka) | El-Sadat, Rashid | Kidney bean, broad bean | + |
| **Family Cunaxidae**<br>*Cunaxa capreolus* Berlese | Ashmoun, Beni Suief | Rice | +++ |
| *Pulaeus glebulentus* Den Heyer | Menouf, Aga, Beba | Wheat, rice | + |
| **Family Stigmaeidae**<br>*Apostigmaeus aegypticus* (Soliman & Gomaa) | Shebein El-Koum, El-Shohadaa | Maize, broad bean | ++ |
| *Stigmaeus africanus* (Soliman & Gomaa) | Ashmoun, Beba, Aga, Rashid | Maize, wheat | +++ |
| *Agistemus banksi* (Gomaa & (Hassan) | Shebein El-Koum, El-Shohadaa, Meit Ghamr | Wheat, soybean | + |

**Table ( 1 ): Cont.**

| Mite species | Locality | Host (s) | Abu. |
|---|---|---|---|
| **Family Caligonellidae**<br>*Neognathus oblongus* (Soliman) | Berket El-Sabaa, Meit Ghamr | Soybean | + |
| **Family Raphignathidae**<br>*Raphignathus niloticus*<br>Gomaa and Hassan | Shebein El-Koum, El-Shohadaa | Maize | + |
| *Raphignathus bakeri* Zaher & Gomaa | Beni Suief, Tala | Wheat, soybean | ++ |
| **Family Eupodidae**<br>*Eupodes aegyptiacus* Abou-Awad & El-Bagoury | Berket El-Sabaa, Ashmoun | Wheat | + |
| **Family Tydeidae**<br>*Orthotydeus californicus* Banks | Ashmoun, Meit Ghamr | Wheat, maize, soybean | +++ |
| *O. kochi* (Oudemans) | Beni Suief,, Ashmoun, Rashid | Broad bean, soybean | +++ |
| *Pronematus rykei* Meyer & Rodrigues | El-Bagour, Rashid | Wheat, kidney bean | ++ |
| **Suborder Gamasida (Mesostigmata)** | | | |
| **Family Ascidae**<br>*Blattisocius tarsalis* (Berlese) | El-Bagour, Aga, Beba | Rice, wheat, broad bean | + |
| *Blattisocius keegani* (Fox) | Queisna, Menouf | Rice, wheat, broad bea soybean | +++ |
| *Blattisocius dentriticus* (Berlese) | Shebein El-Koum, El-Shohadaa | Kidney bean, maize | + |
| *Proctolaelaps pygmaeus* (Muller) | Ashmoun, El-Sinbilawein, Beba | Maize, broad bean | +++ |
| *P. orientalis* Bhattacharyya | Ashmoun | Wheat and soybean | ++ |
| *Lasioseius lindiquisti* Nasr & Abou Awad | Rashid, Beba | Soybean | + |
| **Family Macrochelidae**<br>*Macrocheles muscaedomesticae* (Scopi) | Berket El-Sabaa, Menouf, Meit Ghamr | Maize, rice | + |
| *Macrocheles carinatus* (Koch) | Ashmoun, Aga | Wheat | + |
| **Family Uropodidae**<br>*Urobovilla krantzi* Zaher & Afifi | Menouf, Ashmoun | Maize | + |
| **Suborder Oribatida (Cryptostigmata)** | | | |
| **Family Oppiidae**<br>*Oppia sticta* (Popp) | Menouf, Ashmoun, Aga | Wheat, soybean | + |
| **Family Oribatulidae**<br>*Zygoribtula saydei* El-Badry & Nasr | El-Sadat, Berket El-Sabaa | Maize, kidney beans | + |

+ = rare (1-3 indivduals) ++ = moderate (4-8 indivduals) +++ = more than 8 indivduals

Table (2): Occurrence of collected different families, genera and species according to their habitat and feeding habits in different Governorates.

| Families | Genera | Species | Dominant species | No. of products |
|---|---|---|---|---|
| **Suborder Astigmata** | | | | |
| Acaridae | 7 | 11 | *utrescentiae, R. robini,C.berlesei* | 6 |
| Suidasidae | 1 | 1 | *S. nesbitti* | 2 |
| Lardoglyphidae | 1 | 1 | - | 1 |
| Glycyphagidae | 4 | 6 | *G. domesticus* | 5 |
| Pyroglyphidae | 2 | 2 | - | 2 |
| Carpoglyphidae | 1 | 1 | - | 2 |
| Chortoglyphidae | 1 | 1 | - | 1 |
| **Total** | **17** | **23** | | |
| **Suborder Prostigmata** | | | | |
| | 5 | 8 | *C. malaccensis, C. eruditus* | 5 |
| | 1 | 2 | - | 3 |
| Pyemotidae | 1 | 2 | *P. herfesi* | 1 |
| Tarsonemidae | 1 | 2 | - | 5 |
| Cunaxidae | 2 | 2 | *C. capreolus* | 2 |
| Stigmaeidae | 3 | 3 | *S. africanus* | 4 |
| Caligonellidae | 1 | 1 | - | 1 |
| Raphignathidae | 1 | 2 | - | 3 |
| Eupodidae | 1 | 1 | - | 1 |
| Tydeidae | 2 | 3 | *O. kochi, O. californicus* | 5 |
| **Total** | **18** | **26** | | |
| **Suborder Mesostigmata** | | | | |
| Ascidae | 3 | 6 | *B. keegani P. pygmaeus* | 5 |
| Macrochelidae | 1 | 2 | - | 3 |
| Uropodidae | 1 | 1 | - | 1 |
| **Total** | **5** | **9** | | |
| **Suborder Cryptostigmata** | | | | |
| Oppiidae | 1 | | - | 2 |
| Oribatulidae | 1 | | - | 2 |
| **Total** | **2** | | | |

## REFERENCES


Abdel-Khalik, A.R. 2013. Studies on the effect of certain mites on some food products. M.Sc. Thesis fac. Sc., Menofia Governorate, 104 pp.

Attiah, H.H. 1969. Tyroglyphid mites associated with stored food in U.A.R. Egypt. Min. Agric., Plant Protection Dept., Tech. Bull., 10: 1-51.

El-Naggar, M.E., M.A. Rakha and H.A. Taha 1992. Mites of stored grains in Egypt. Egypt. J. Biol. Pest Control, 2(2): 109-122.

Essig, E.O. 1958. Insects and mites of Western North America. II ed. Macmillan, New York. 1050 pp.

Hughes, A.M. 1961.The mites of stored food. Min. of Agr., Fish. & Food Tech. Bull., 9: 278.

Hughes, A. M. 1976. The mites of stored food and houses. Technical Bulletin No.9, Ministry of Agriculture, Fisheries and Food, London. 399 pp.

Krantz, G.W. and Walter, D.E. 2009. A Manual of Acarology. Texas Tech Univ. Press, 807 pp.

Mostafa, A.M. and N.I. Shokier 1994. Stored product mites in Egypt. J. Appl. Sci., 9(8): 730-739.

Mouray, K.R. and Z. Jamil 1982. Survey of storage Acari in Lucknow, India. Biol. Mem., 6(23): 97-122.

Nesbitt, H.H.J. 1945. A revision of the family Acaridae (Tyrglyphidae), Order Acari, based on comparative morphological studies, Canad. Jour. Res., 23: 139-188.

Srinivasan, R. 2014. Insect and mites pests on vegetable legumes. The World Vegetable Center, Shanhua, Taiwan.AVRDC Publication No. 14-778. 92 pp.

Stejskal, V. 2003. Economic injury level and preventive pest control. Anzeiger für Schadlingskunde – Journal of Pest Science, 76: 170–172.

Stejskal, V., Aulicky, R. and Kucerova, Z. 2014. Pest Control Strategies and Damage Potential of Seed-Infesting Pests in the Czech Stores – a Review. Plant Protect. Sci., 50(4): 165–173.

Summers, F.M. and Price, D.W. 1970. Review of the mite family Cheyletidae. Univ. Calif. Publ. Entomol., 61: 153 pp.

Fan, Q. and Zhang, Z. 2003. *Rhizoglyphus echinopus* and *Rhizoglyphusrobini* (Acari: Acaridae) from Australia and New Zealand: identification, host plants and geographical distribution. Systematic & Applied Acarology, Special Publications, 16: 1-16.

Fan, Q. and Zhang, Z. 2004. Revision of *Rhizoglyphus* Claparede (Acari: Acaridae) of Australasia and Oceania. 374 pp.

Fan, Q. and Zhang, Z. 2007. Fauna of New Zealand, *Tyrophagus* (Acari: Astigmata: Acaridae) : 291 pp.

Zaher, M.A. 1986. Survey and ecological studies on phytophagous, predaceous and soil mites in Egypt. II- Predaceous and non-phytophagous mites (Nile valley and Delta). PL-480 Program. USA Project No. EG- ARS-30. Grant No. FG-EG-139, 567 pp.

Zaher, M.A., M.I. Mohamed and S.M. Abdel-Halim 1986. Incidence of mites associated with stored seeds and food products in Upper Egypt. Exp. & Appl. Acarology, 2(1): 19-24.

Zdarkova E. 1996. The effect of mites on germination of seed. Ochrana Rostlin – Plant Protection Science, 32: 175–179.

## ARABIC SUMMARY

**تواجد الأكاروسات المختلفة المرتبطة بالحبوب والمحاصيل البقولية فى مناطق مختلفة من مصر**

عصام محمد عبد السلام ياسين - صدقي عبد الحميد عبدالراضى عثمان – على كامل على رحومة
معهد بحوث وقاية النباتات – مركز البحوث الزراعية – الدقى – الجيزة - مصر

أثبتت الدراسة وجود ٦٠ نوعاً أكاروسياً ينتمون إلى ٤٢ جنساً داخل ٢٢ عائلة وتحت أربعة رتب أكاروسية وهى عديمة الثغرAstigmata– أمامية الثغرProstigmata– متوسطة الثغر Mesostigmata والحلم الخنفسى *Cryptostigmata* . كما أشارت النتائج المتحصل عليها إلى أن مجموعة الأكاروسات عديمة الثغر شملت ٧ عائلات و ١٧ جنساً و ٢٢ نوعاً مختلفاً بينما ضمت تحت رتبة الثغر الأمامى ٢٦ نوعاً أكاروسياً فى ١٨ جنساً ينتمون إلى ١٠ عائلات. ومن الدراسة أيضاً وجد أن مجموعة الأكاروسات ذات الثغر المتوسط شملت ٩ أنواع و ٥ أجناس داخل ثلاث عائلات مختلفة وشملت مجموعة الحلم الخنفسى نوعين اثنين داخل جنسين مختلفين كل فى عائلة واحدة. ولقد وجد من النتائج المتحصل عليها أن أكثر الأنواع تواجداً فى هذه الدراسة *Tyrophagus putrescentiae* و *Caloglyphus berlesi* و *Rhizoglyphus echinopus* داخل عائلة Acaridae و*النوع Suidasia nesbitti* داخل *عائلة* Suidasidae و*النوع Glycyphagus domesticus* فى عائلة Glycyphagidae والنوع *C. Dermatophagoides farinae* و *Cheyletus malaccensis* والنوعان فى عائلة Pyroglyphidae *eruditus* فى عائلة Cheyletidae والنوع *Pyemotes herfesi* فى عائلة Pyemotidae والنوع *Cunaxa capreolus* فى عائلة Cunaxidae والنوعان *Orthotydeus californicus* و *O. kochi* داخل عائلة Tydeidae والنوعان *Blattisocius keegani* و *Proctolaelaps pygmaeus* داخل عائلة Ascidae. كما دلت النتائج المتحصل عليها أيضاً أن الأكاروس *Stigmaeus africanus* تم الحصول عليه من جميع المناطق محل الدراسة وبأعداد كبيرة.